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Businessweek**

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MIDLIFE

Viacom is
chasing young
audiences
with an old
business model.
Fire! Fire! Fire!

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CRISIS

A woman with dark hair and glasses, wearing a white lab coat and yellow gloves, is working in a laboratory. She is holding a test tube with a blue cap. In the background, there are laboratory equipment, including a large glass flask with green liquid and a blue glove holding another test tube. The scene is brightly lit, suggesting a professional research environment.

How do you make a common threat far less common?

Ask Rowan.

Every year, millions are hospitalized and treated for poison ivy inflammations. If Dr. Cathy Yang's poison ivy vaccine passes the final stages of clinical trials, millions of workers may be able to stay on the job and out of the hospital. Her work is a perfect example of the corporate partnership and creative thinking at Rowan University. If you would like to become a partner to create a healthier, more productive future, ask Rowan.



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"The people who want to end the wars and end NSA spying are the same people who want to be able to sell raw milk"

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"I think about how far do I have to shove my thumb into his eye socket to gouge his eye out"

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"Obviously, you know we're not in a legal business. So if you talk to anyone, we know where you and your family live"

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Domestic Cover

1

"Cover is on Viacom. They're having trouble attracting young viewers to their networks."

"What are their networks?"

"MTV, Comedy Central, Nickelodeon, VH1 ..."

"MTV and Nickelodeon were vital to my teenage self. I remember feeling like Beavis was the only one who understood my rampant pyromania."

"I don't need to know."

"I wonder how Beavis would feel if he knew how his network was doing now."



International Cover

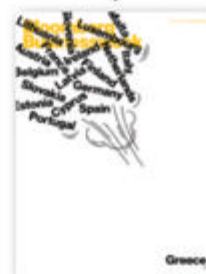
1

"Cover is on Greece and the impending determination of whether they'll stay part of the euro zone."

"Two Greece covers in a row, this is a new record for us. Usually we space them out by at least a few weeks."

"I know, we all expected this to be resolved by now. In any case, we have to make it look different from the last one, so no tropes. No statues, no ancient Greek typography, no olives, no crumbling Parthenon columns, no Greek flag colors, no protesters holding Greek flags, no blue-and-white-domed buildings on a hilltop, no gyros. In fact, no images or visual motifs that even remotely reference Greece whatsoever."

"Wow, plain black type on a white background it is!"





WINNING "EUROPE'S
BEST AIRLINE" FEELS JUST
AS GREAT THE FIFTH TIME
AS THE FIRST TIME.



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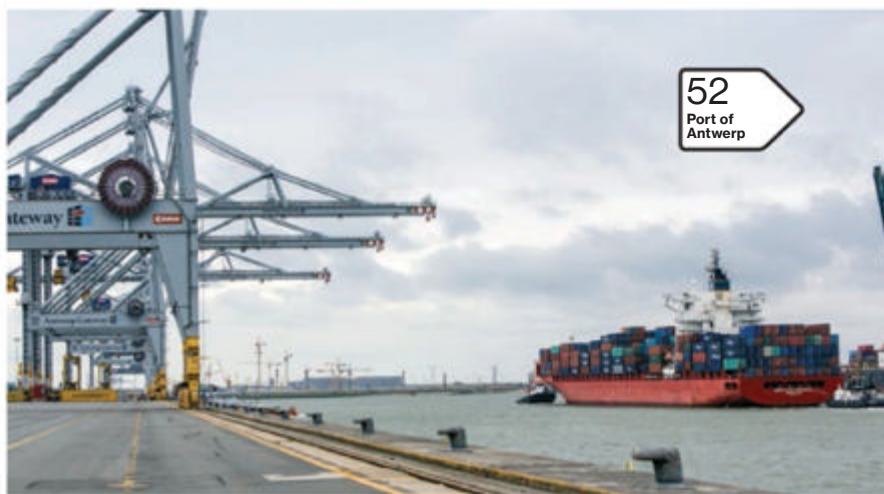
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Corrections & Clarifications

"What Is Code?" (June 15-June 28, 2015) contained a quote from Erica Joy Baker that did not name Baker or link to her post. It also incorrectly stated that Instagram was sold for \$2 billion; the price was \$700 million. And it reversed the numbers in Euclid's Algorithm, dividing the larger number by the remainder, instead of the smaller number. Edsger Dijkstra wrote at least 1,318 memos to the computer science community, not 18. The article identified git commit identifiers as random; they are securely unique strings of characters known as SHA-1 hashes. Digital wristbands are available at Disney World, not Disneyland. The JavaScript runtime environment node was created in 2009, not 2008.



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Opening Remarks

Should I Stay Or Should I Go?

By Peter Coy

On Sept. 6, 1946, U.S. Secretary of State James Byrnes gave a speech in Stuttgart, Germany. A movement was afoot to penalize the Germans for their role in World War II by deindustrializing the country. Byrnes opposed anything resembling economic spite and promised the country a fair chance to rebuild. “Germany is a part of Europe,” Byrnes said, “and recovery in Europe will be slow indeed if Germany with her great resources of iron and coal is turned into a poorhouse.” It became known as the Speech of Hope.

Whatever he lacks in efficacy, Greek Finance Minister Yanis Varoufakis knows his history. On June 7, in an op-ed for the

already unsustainable debt, conditional on further doses of punitive austerity.”

Merkel, of course, will do no such thing. She and many of her European peers appear increasingly open to the possibility that Greece will crash out of the euro currency. What makes Varoufakis’s op-ed poignant is that he’s largely right about the damage wrought by austerity. Even before the latest chaos, the economy had shrunk by a quarter from its peak. Greece needs debt reduction far more than spending cuts and tax hikes. “I can think of no depression, ever, that has been so deliberate and had such catastrophic consequences,” Columbia University economist Joseph Stiglitz wrote on his blog on June 29.

But the rest of Europe doesn’t want to hear what Greece has to say anymore. In vowing that he has the upper hand in negotiations, Greek Prime Minister Alexis Tsipras sounds as detached from reality as the Iraqi information minister who promised Western reporters in 2003 that U.S. troops would be smashed by the forces of Saddam Hussein. Varoufakis is a bad-boy academic who likes showing up on a motorcycle and wagging his finger at the diplomats. Here’s Varoufakis again, this time from a Twitter message in April: “FDR, 1936: ‘They are unanimous in their hate for me; and I welcome their hatred.’ A quotation close to my heart (& reality) these days.” This needs to be about Greece, not Yanis.

It’s not just Germans who are tired of Greece. The leaders of Spain, Ireland, and Portugal, who might have been natural allies, have been some of the Greeks’ toughest critics. They argue that their countries swallowed the austerity medicine and that Greece should, too. Concessions to Greece now would embolden leftist critics in their own countries,

such as the Podemos party in Spain. Even Bulgaria, which joined the European Union only in 2007 and is still trying to shape up its economy to accede to the euro, is fed up. “We are much poorer than the Greeks, but we have performed reforms,” Bulgarian President Rosen Plevneliev told the *New York Times*.

The upshot is that events are unfolding roughly as foreseen by the wily German

website Project Syndicate, he harked back to Byrnes. “Today, it is my country that is locked in such circumstances and in need of hope. Moralistic objections to helping Greece abound, denying its people a shot at achieving their own renaissance,” he wrote. He called on German Chancellor Angela Merkel to come to Greece and give a similar speech—“a break with the past five years of adding new loans on top of

In 2011 the EU was terrified of a Greek exit. Now, few have patience for the antics of Prime Minister Alexis Tsipras



finance minister, Wolfgang Schäuble: The disaster befalling Greece is scaring other European nations into following the straight and narrow. According to former Treasury Secretary Timothy Geithner in his book *Stress Test: Reflections on Financial Crises*, Schäuble told him in 2012 that—in Geithner’s words—some people were arguing “that letting Greece burn would make it easier to build a stronger Europe with a more credible firewall.”

Greece wasn’t yet on the outs in 2011, when Prime Minister George Papandreou announced a referendum on austerity measures demanded by international creditors. Other European leaders pressed him to change the referendum into a yes-or-no vote on euro membership, betting on a clear yes from the Greek people. Instead Papandreou canceled the vote, the opposition called for immediate elections, and the prime minister agreed to step down. This time, with a referendum slated for July 5, the rest of Europe is almost blasé. That’s partly because the EU has new mechanisms to prevent contagion, and partly because a Greek exit, if it occurs, will likely be so ugly that no one will be tempted to follow it out the door. At this stage, “acquiescing to Greek intransigence on economic reforms” seems like “a greater existential threat to the euro zone than the potential spillover effects of a Greek exit,” Eswar Prasad, a professor of trade policy at Cornell University, wrote in an e-mail. “The costs of the breakdown in negotiations appear to be falling almost entirely on Greece.”

Europe may not even need to expel Greece from the common currency to be relieved of it. The country has already been cut off by the European Central Bank from increases in emergency liquidity assistance and may soon lose access to other lending channels. “You can kind of leave Greece in this state of suspended animation in which the whole issue of

Grexit becomes neutered,” says Huw Pill, a former European Central Bank official who is chief European economist for Goldman Sachs International.

If the euro zone is shorn of its most unreliable member, the other 18 countries could build trust with each other and band together more tightly. It’s conceivable that the governments would agree someday to a fiscal union—i.e., centralized taxing and spending—making the euro zone a single economic entity like the U.S. That would fix the biggest flaw in the euro experiment. Because they share a currency, countries in recession can’t resort to the safety valve of a currency depreciation. In the U.S., of course, hard-hit

“The costs of the breakdown in negotiations appear to be falling almost entirely on Greece”

between, say, Texans and Floridians. An EU survey of citizens in 28 member nations last November found that 52 percent felt very attached to their cities, towns, or villages, and 54 percent felt very attached to their countries, but only 9 percent felt very attached to the EU itself. The bailouts triggered by the financial crisis didn’t help matters, feeding into ancient stereotypes by pitting mostly northern creditor nations against mostly southern borrowers (not just Greece). In 2011, European Parliament member Jussi Halla-aho of Finland suggested Greece needed a junta “to rein in the strikers and demonstrators... with tanks.”

In retrospect, Europe’s first mistake was letting Greece into the euro zone in 2001. Germans wagered correctly that Greek accession would enlarge the market for their exports. But they were wrong in thinking that Greece would be inspired or forced to fix its rickety economy. Corruption and bureaucratic inefficiency went unabated. The second mistake was allowing Greeks to overborrow; optimistic investors accepted yields on sovereign debt nearly as low as those Germany paid. The third mistake was to treat the problem by piling on official loans rather than by restructuring the private-sector debt. Greece would have had a better chance of recovery, and Europe would have been less exposed: “I don’t think anybody would have seen it as bending the rules if the composition of

fiscal adjustment had been different,” says Alessandro Leipold, chief economist at the Lisbon Council, a Brussels-based think tank and policy network.

The Europeans mishandled Greece. Tsipras and Varoufakis responded with hubris. Now Greece stands at the center of its own drama, surrounded by a wailing chorus, as erstwhile allies prepare to say goodbye. **B**



regions get automatic relief because their tax payments fall while benefits like food stamps rise. Europe’s stabilizers are tiny: The entire EU budget is only 1 percent of the region’s gross domestic product.

But it’s equally possible the euro zone will go in the other direction, away from unification. The cultural, historical, and linguistic differences between Greeks and Germans remain far deeper than those

The Legacy of Mitch McConnell

Obama's had a good run lately. But so has the Senate majority leader



In Washington, the events of the last full week in June were clearly of an historic nature. Yet to be decided, however, is what contribution they will make in shaping the legacy of one of the most powerful men in the capital.

That man, of course, is Senate Majority Leader Mitch McConnell.

Yes, it was also a pretty good week for President Obama, whose health-care law survived a Supreme Court challenge and who was able to applaud the court's decision extending gay marriage to all 50 states (a cause he came to only lately). He also delivered a stunning eulogy for the Reverend Clementa Pinckney in Charleston, S.C.

Where does McConnell come in? By handing the president a huge win on a trade deal. The Senate passed fast-track legislation on June 24 to ease the path for an expansive trade agreement with Pacific nations. Before victory was achieved in a 60-to-38 vote, however, congressional Republican leaders had to earn the trust not only of their own party members but also of a few wary Democrats, who feared that the complicated legislative maneuver McConnell engineered might drop their goal of securing trade adjustment assistance for workers hurt by a deal.

Cross-party trust hasn't been a hallmark of recent Congresses. Indeed, the most salient quality of Republican leadership on Capitol Hill since 2009 has been vehement, occasionally indiscriminate opposition to the White House's agenda. The cost is everywhere apparent—from infrastructure that goes unrepaired to carbon emissions that go unchecked.

Yet McConnell, in particular, has recently managed to rise above the dreary partisanship that drags Washington down. His legislative successes have required forging a genuine partnership with the White House and congressional Democrats.

That achievement on trade closely followed a legislative breakthrough on the Medicare “doc fix,” which originated with House Speaker John Boehner and his Democratic rival Nancy Pelosi. The resulting bill, signed by Obama in April, aims for a long-term solution to a perennial problem—how to reimburse

doctors for their care of Medicare patients more efficiently. In May, in another bipartisan triumph, the Senate majority leader outsmarted archconservatives in his caucus who had sought to scuttle the White House's ability to strike a nuclear deal with Iran.

It's all a long way from the Mitch McConnell of 2010, who famously said that his top priority was to defeat Obama in 2012. By contrast, lately he's shown that partisan competition isn't incompatible with bipartisan success and that conservative skepticism about government power needn't be an excuse for inaction and dysfunction.

Truculence and timidity still exist in Washington. But if there's been a change in atmosphere—and results—then McConnell deserves some of the credit.

SpaceX's Useful Failure

The abortive missions are the cost of making progress in spaceflight

In corporate parlance, the incident was a “non-nominal launch.” Others more bluntly called it a “catastrophic failure.” SpaceX's seventh mission to rendezvous with the International Space Station ended in flames above Cape Canaveral, Fla., on June 28 a couple of minutes after liftoff.

The failure—the third for a resupply mission in less than a year—is a blow to the space station's scientific agenda. It's yet another challenge to NASA's plans to let private companies handle such launches as it trains its sights deeper into space. And it's a setback to SpaceX's ambitious plans to deploy reusable rockets.

The good news is that SpaceX still has a few years to perfect those rockets before they're scheduled to carry people into the cosmos. The space station still has months' worth of supplies to sustain its crew. And NASA's plan to let private companies handle more responsibilities remains sound as a matter of public policy.

The failures should be recognized as the cost of making progress in spaceflight. New rocket systems fail as often as they succeed. And the string of recent (and unrelated) accidents in supplying the space station conveys important lessons of its own as the space program ramps up for more ambitious exploration. As Scott Kelly, an astronaut aboard the station, put it on Twitter after the June 28 accident: “Space is hard.”

That this was the first failure in 19 launches for the Falcon 9 speaks to how much Elon Musk's SpaceX has already accomplished. Since the company started in 2002, it has delivered a propulsive jolt to the aerospace industry by striving to do things faster, cheaper, and more inventively. It's spurred competitors to slash costs, broken a monopoly on national security launches, and even roused some sluggish peers to try building reusable rockets of their own. As *Bloomberg Businessweek* reporter Ashlee Vance writes in his biography of Musk, “SpaceX has become the free radical trying to upend everything about this industry.”

Upending things can work wonders in the marketplace. In space, it can all too easily lead to tragedy. SpaceX is learning that lesson. **B**

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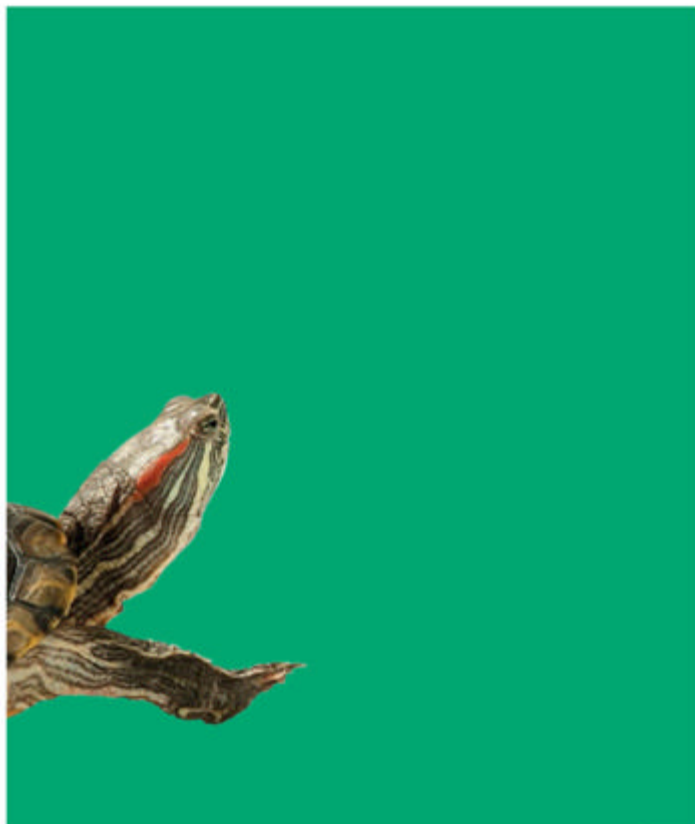
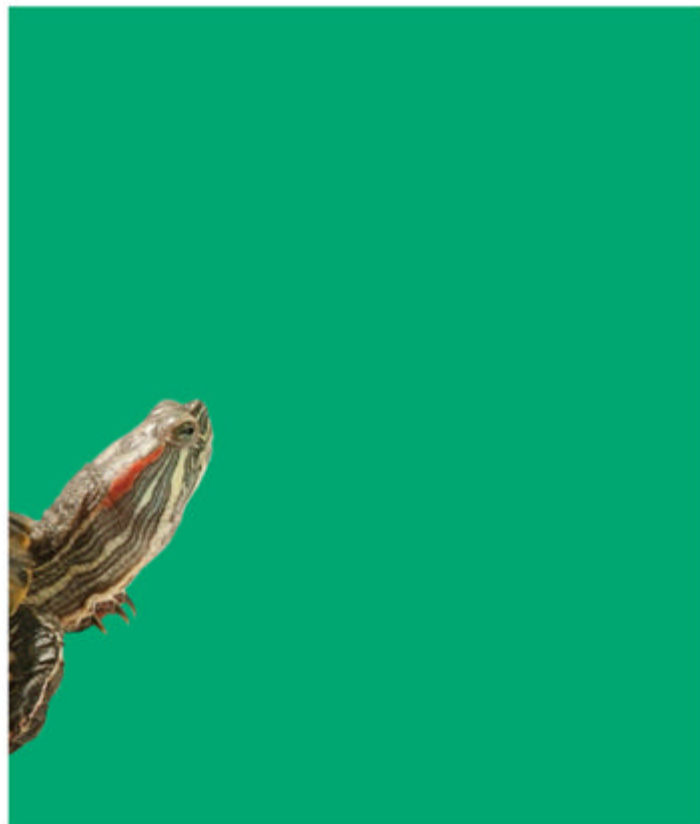


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► Some economists think the U.S. upturn could last four more years

► “I call it the Rodney Dangerfield expansion”

It may not seem like much of a recovery to most Americans, but the current economic expansion could prove to be the longest in more than 150 years. Low inflation, healthy consumer finances, and pent-up demand for housing mean that the recovery could withstand any fallout from the Greek crisis and has room to run as it enters its seventh year in July. “There’s a high probability that we will exceed the 10-year expansion of the 1990s,” says Allen Sinai, chief executive officer of Decision Economics. If that happens, unemployment would drop below 5 percent, from about 5.5 percent now; corporate profits, already at record levels, would rise further; and the stock market would reach new highs, according to Sinai.

Those outcomes would depend on the ability of the Federal Reserve to raise interest rates without upending financial markets and squelching growth. Many past recoveries were cut short when the

central bank tightened credit to prevent overheating. Most Fed officials expect to raise interest rates this year for the first time since 2006.

The expansion has already lasted longer than the postwar average of just under five years. It’s been marked by ebbs and flows as the U.S. was buffeted by everything from a government shutdown in Washington to a tsunami in Japan that disrupted global trade.

The recovery has also been the weakest of the post-World War II era, with annual growth averaging 2.2 percent, below the 2.8 percent pace of the previous expansion and the 3.6 percent recorded in the 1991-2001 upturn. Three out of five Americans polled by Fox News in May said the U.S. was still in recession. “I call it the Rodney Dangerfield expansion,” says David Rosenberg, chief economist at Gluskin Sheff & Associates, a wealth manager, alluding to the late comedian’s trademark line, “I don’t get no respect.”

The expansion’s modest pace has kept inflation down, allowing the Fed to hold its target for short-term interest rates near zero since 2008. Moderate growth also means that the U.S. has avoided debt-driven excesses that can bring an upswing to an abrupt halt, as happened when the housing boom went bust. “The curse of the economic cycle to date, which has been its sluggishness, is now turning into a blessing, resulting in greater longevity,” says Carl Riccadonna, chief U.S. economist for Bloomberg Intelligence.

In a vote of confidence that demand will prove durable, **General Motors** in April said it will spend \$5.4 billion on its U.S. plants in the next three years as it prepares to build a series of new models. GM’s expansion comes just as U.S. consumers are opening their wallets after six years of fortifying their finances. At more than six times personal income, household net worth is the highest since before the recession

Mexico's resistance to stimulus stimulates investors 12

Islamic State finds gold in priceless ancient artifacts 12

SSDI is hobbled by too many able-bodied beneficiaries 14

Credit scoring comes to China 13

Which central bank has the clearest crystal ball? 15

Steadiest

Recovery



as the stock market and property prices have rebounded and savings have gone up. Consumer delinquencies on credit cards and auto and other loans are near record lows.

Purchases of new homes rose in May to the highest level in seven years, the Department of Commerce reported on June 23. "We're still in the early stages of a multiyear, slow-but-steady housing recovery," Stuart Miller, chief executive officer of **Lennar**, the second-largest U.S. homebuilder, said on a June 24 conference call.

Homebuilding, business investment, and consumer purchases of durable goods such as appliances and furnishings account for just under 24 percent of gross domestic product, Rosenberg says. That's well below the average 28 percent peak reached in previous cycles, suggesting more spending ahead. The low level of inflation gives longer life to the expansion. As measured by the personal consumption expenditure price index, the Fed's favorite gauge, the inflation rate was just 0.2 percent in May from the same period in 2014, below the central bank's 2 percent target.

Wages have started to pick up but are still below levels Fed officials consider normal. The amount companies spent on wages and benefits such as pensions rose 2.6 percent in the first quarter from a year earlier. A 3 percent to 4 percent increase is more typical for the U.S., according to Fed Chair Janet Yellen. "While the slow pace of wage gains is painful for workers, it is helping to keep inflation down and thus to postpone again

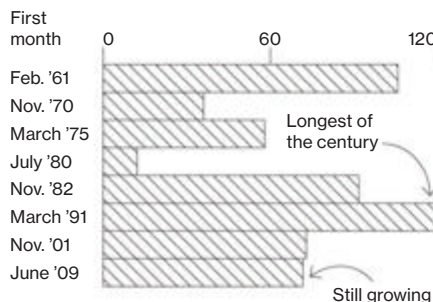
and again the need for the Fed to raise interest rates in a way that would cut short the expansion," Robert Gordon, a professor at Northwestern University, said in an e-mail. Gordon, a member of the National Bureau of Economic Research's Business Cycle Dating Committee, which determines when recessions begin and end, sees the expansion lasting three years more. Gluskin Sheff's Rosenberg sees four more years.

At 5.5 percent in May, the jobless rate is down from the 10 percent mark it hit in 2009 and is closing in on the 5 percent to 5.2 percent level most Fed officials deem equivalent to full employment. Robert Hall, an economics professor at Stanford and chairman of the NBER business cycle committee, said in an e-mail that unemployment can fall further without generating much inflation as the improving economy draws more Americans into the labor force. "Don't forget that the unemployment rate reached a low of 3.8 percent in 2000," he wrote.

Harvard professor and fellow committee member Martin Feldstein is ▶

Room to Run

Length in months of U.S. expansions since 1961



DATA: NATIONAL BUREAU OF ECONOMIC RESEARCH

◀ more cautious. “I do see increased risks that have resulted from the exceptionally low interest rates,” he said in an e-mail. “Even if rates normalize slowly and without substantial inflation, there could be substantial financial losses” in the markets.

Since 1950 the U.S. has had a recession at the start of every decade except the current one, notes Mark Zandi, chief economist at Moody’s Analytics. “If that bit of economic astrology holds, the next one will be in 2020,” he says. “I wouldn’t argue with that.” —*Rich Miller and Shobhana Chandra*

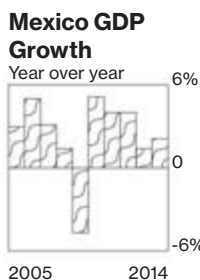
The bottom line Low interest rates, skimpy wage hikes, higher savings, and increased spending are prolonging the recovery.

Fiscal Policy

Stimulus-Averse Mexico Is an Investor Darling

- ▶ The government’s reluctance to spur growth is reassuring
- ▶ “We can understand a more conservative approach”

It’s been decades since Mexico has posted growth rates worthy of an emerging-market tiger. Its performance during the commodities boom was middling compared with the rest of Latin America and trailed Brazil and Argentina. Yet Mexico is the standout



now that its flashier peers are stumbling. Its economy is poised to grow 2.6 percent this year, according to a Bloomberg survey of 32 Wall Street analysts. That’s compared with what the International

Monetary Fund projects will be a regional average of less than 1 percent. “Maybe it’s not as good as expected,” said Mexican President Enrique Peña Nieto in a June 11 interview, “but it’s better than other nations.”

That 2.6 percent forecast is about half the more than 5 percent annual growth Peña Nieto said Mexico could achieve in the medium term if Congress endorsed his proposals. His

administration hasn’t come close to hitting its own growth targets since taking office at the end of 2012.

Blame it on an aversion to government stimulus shaped by more than two decades of currency devaluations triggered by excessive government borrowing and overspending. One academic dubbed the phenomenon the Sexenio Curse, because the crises coincided with either the beginning or the end of one of Mexico’s six-year presidential terms; the first devaluation crisis took place in 1976 and the last in 1994, when 48-year-old Peña Nieto and key members of his economic team were beginning their careers.

Argentina and Brazil are not opposed to stepping up spending—especially around election time. But Mexico nowadays prefers to be “prudent and responsible,” says Peña Nieto. Although his government could be exploiting low borrowing costs, it’s implementing spending cuts with an eye to balancing the budget by 2017, excluding investments in state-run oil giant Pemex.

This parsimony has made Latin America’s second-largest economy a favorite among bond investors, says Credit Suisse Group chief Latin America economist Alonso Cervera. Bumping up spending now could be “dangerous,” he says, because once the U.S. Federal Reserve nudges up interest rates, Mexico may have to do the same to keep capital from flowing north.

Along with other analysts, Cervera expects growth to pick up in the second half of the year, as the U.S. recovery strengthens and Mexico opens its energy sector to private investment for the first time since 1938. Factories that produce primarily for export are humming, thanks in part to an 18 percent drop in the peso’s value against the dollar over the past year. **Ford Motor, Toyota Motor, and Volkswagen** are pouring billions into Mexican plants to take advantage of the more competitive exchange rate. All of this will bolster growth in the second half to an annual rate of almost 4 percent, forecasts Credit Suisse—nearly double the pace of the first half.

Mexico’s stability-over-stimulus

approach is even winning praise from some of its victims. Shares of the nation’s largest builder, **Empresas ICA**, have tumbled more than 50 percent since

Peña Nieto took office, partly because spending on public works is being rolled out more slowly than expected. “We’re in an industry that would benefit from more stimulus,” says Chief Executive Officer Alonso Quintana. “But we can understand a more conservative approach given Mexico’s history.”

Peña Nieto hasn’t given up trying to reach his target growth number. He spent the first two years of his six-year term overhauling energy, education, telecommunications, and lending laws. “Why didn’t we reach those levels?” Peña Nieto asks. “Well, it takes time. Everything is part of a process.” —*Brendan Case and Jessica Brice*

The bottom line Mexico’s government has proved unwilling to sacrifice fiscal discipline to stoke growth.



War

Islamic State Plays The Antiquities Game

- ▶ With oil revenue dwindling, Islamic State rethinks smashing artifacts
- ▶ “They bring in their own trucks, their own bulldozers”

The WhatsApp message showed photos of an ancient Mesopotamian vase worth \$250,000, waiting to be bought. The recipient of the message, Amr Al Azm, replied that he was interested. How to proceed? A message from a different account followed. The vase could be smuggled through Lebanon.

Al Azm, a Syrian émigré and an anthropology professor in Ohio, was faking it, as he does when other photos of looted antiquities are sent to him in the belief that he’s a collector or dealer. He’s a detective—self-appointed—hoping to save some of the world’s rarest and most vulnerable artifacts by tracking the antiquities trade of Islamic State.

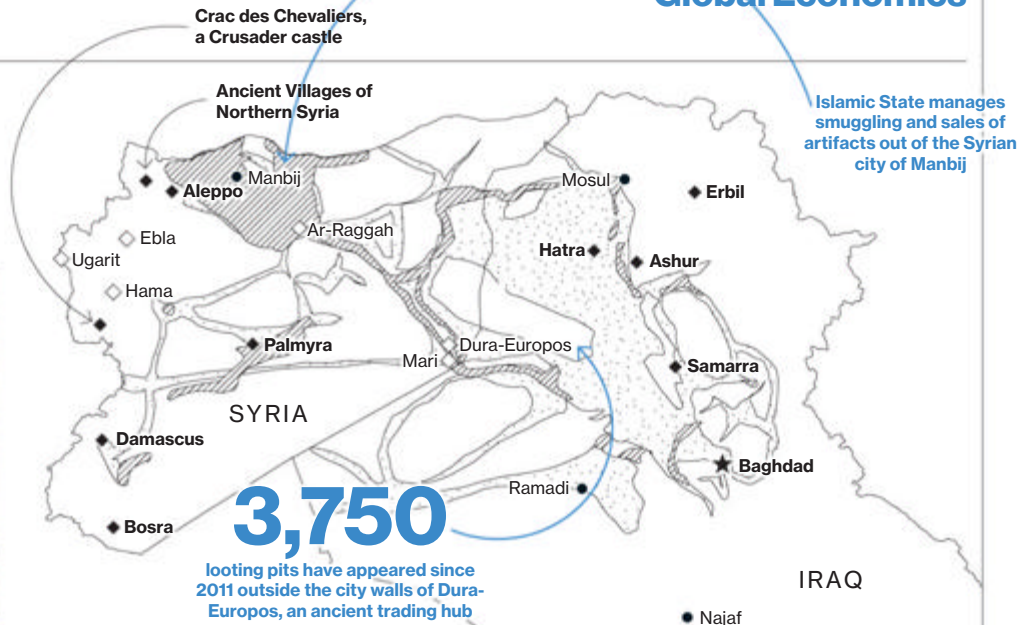
Earlier this year, Islamic State released videos of its bearded members destroying ancient artworks at the Mosul Museum. Contrary to those images, Islamic State was already imposing a 20 percent tax on the works dug up by freelance looters and on

“Maybe it’s not as good as expected, but it’s better than other nations.”
—*Mexican President Enrique Peña Nieto*

Islamic State's Grip on Antiquities

The insurgent group is close to major sites in Iraq and Syria that are highly valued by archaeologists and collectors

- Islamic State control
- Islamic State presence
- ◆ UNESCO World Heritage site
- ◇ Candidate for World Heritage status



what the dealers make selling them. After U.S.-led airstrikes on refineries and tankers reduced the group's \$1 million daily oil revenue by almost two-thirds, Islamic State turned to Facebook and WhatsApp to publicize artifacts for sale. A spokesperson for both the social network and the messaging service says such posts violate their standards and are removed as soon as they are discovered. Islamic State has also started to loot sites and broker its own trades. It's a growing player in the \$3 billion global antiquities market, and knowingly or not, buyers are filling its coffers.

Al Azm, a professor at Shawnee State University, is chair of the Syrian Heritage Task Force, which was founded by the U.S.-backed Syrian Interim Government to work with universities, museums, and Unesco to protect archaeological sites in Syria. He says Islamic State has set up what it calls the Archaeological Administration in the Syrian city of Manbij, near Turkey, to manage sales of the loot. "They bring in their own trucks, their own bulldozers, hire their own work crews, and pay them salaries," he says. The extremists have links to Turkish crime networks in the border towns of Gaziantep and Akcakale, according to Michael Danti, a professor of archaeology at Boston University who advises the U.S. Department of State on looted antiquities from Iraq and Syria.

Once the artifacts are smuggled into Turkey, brokers sell them to dealers, and several things can happen. Less easily identified pieces are offered online almost immediately. Valuable, well-known pieces are sold privately to

wealthy buyers. Deep-pocketed dealers buy valuable pieces to store them until law agents are less focused on looted art, a waiting game that takes years.

James McAndrew, who worked for 27 years for U.S. Customs and Border Protection and the U.S. Department of Homeland Security, doesn't expect major artifacts stolen by Islamic State to emerge in New York, London, and Geneva for at least a decade. He does think rich residents of the Gulf region are already buying for private collections. "I'm pretty confident those pieces from Iraq and Syria are being sold to wealthy Saudis, Emiratis, Iranians," says McAndrew.

Archaeologists estimate that up to \$300 million worth of antiquities are flooding the market through Turkey, Lebanon, and Jordan as Islamic State sells its trove. Danti says he's seen a spike in uploaded photos of cuneiform tablets and stamp seals. The U.S. International Trade Commission reports that from 2012 to 2013, when Islamic State expanded, U.S. imports of declared antiquities from Iraq jumped 72 percent and those from Syria 133 percent.

One concern is that the items may end up in freeports, facilities at international airports where a company or individual can store art or other valuables and defer tax payments and customs duties for years. The stored items don't have to pass through customs, and getting a search warrant for a storage facility in a freeport is almost impossible. "The best way to stop this is by intercepting the items before they end up in

the freeports," says Daniel Brazier, a special agent for investigations at Homeland Security. Danti says borders need to be secured to stop the outflow. "If we can hold the material inside Syria and Iraq, ISIL can't get the money for it," he says, using an alternative name for Islamic State.

Al Azm says reestablishing rule of law is fundamental. "The trafficking industry in Iraq and Syria is like what Hollywood is for Los Angeles," he says. "Just like everyone is an aspiring actor in L.A., everyone in Syria and Iraq is a dealer in some trafficked goods. The people won't stop hustling until the war ends." —Sangwon Yoon, with Sarah Frier

The bottom line With U.S. airstrikes hammering its oil installations, Islamic State has turned to selling antiquities.

Wealth

Credit Scores Come to Debt-Leery Chinese

▶ To boost consumption, the government wants more borrowers

▶ "If you don't have data, you don't know the risk profile"

If you want to get a loan from Gary Wang, make sure to have drapes in your living room. Because most Chinese don't have credit scores, Wang's **China Rapid Finance**, a peer-to-peer lender based in Shanghai that uses the Internet to

◀ make consumer loans, applies some unusual criteria to predict who will be a good credit risk. People with drapes, says co-founder Wang, are more likely to pay their debts.

It's not the usual way to judge creditworthiness, but until recently many lenders in China had little choice. The **People's Bank of China**, the central bank, operates a credit bureau with data on about 300 million Chinese out of 1.3 billion and shares that information only with certain banks. "If you don't have data, you don't know the risk profile, how to service the segment, and how to price it," Wang says.

That data shortage is ending. On June 1, the State Information Center introduced a website with credit histories, as well as information on who has dodged taxes and failed to follow court rulings. Called creditchina.gov.cn, the site is "the latest push to establish a credit rating system in China," Xinhua reported. The government is also working on what it calls a "social credit system," using everything from tax payments to traffic violations to measure the creditworthiness of its citizens. The system will include "an integrated punishment and blacklist mechanism, so that one dishonest behavior will result in restrictions at every turn," Premier Li Keqiang said on May 12.

The government has awarded licenses to a few corporations, including **Ping An Insurance Group** and Internet giants **Alibaba Group** and **Tencent**, to collect data that will be used to create a much larger base of consumers with credit scores. Alibaba-owned **Sesame Credit Management** announced on June 6 a partnership with an auto rental company that lets customers with good credit reports rent without a deposit.

Households in China save around 40 percent of their income. Chinese consumer spending accounts for only one-third or so of gross domestic product, compared with about two-thirds in the U.S., says Bloomberg Intelligence economist Tom Orlik. "One of the barriers is the absence of reliable credit scoring," he says. "If you want consumers to play a bigger role in driving growth, one way to do that is to make it easier for households to borrow."

Since hundreds of millions of Chinese who shop online lack credit cards, the new license holders are taking fresh

approaches to data collecting. Alibaba and Tencent are looking at consumers' social networking profiles, their online purchasing behavior, and their payment of utility bills.

Fair Isaac (FICO), provider of credit scores for millions of Americans, has begun offering its services in China: More than 40 peer-to-peer lenders and microfinance operations have signed up. FICO is focusing on the majority of consumers who have been neglected by the central bank. People may not have credit cards yet, "but they likely have a phone or a debit card," says John Chen, managing director of FICO in Beijing. "One way or the other, we will use profiles to demonstrate the riskiness of a consumer in the form of a score." —*Bruce Einhorn, with Haixing Jin*

The bottom line Credit scoring services in China have to be creative to figure out if a would-be borrower is a good risk.

Safety Net

The Disability Program Needs Help Itself

▶ The Social Security offshoot is facing insolvency next year

▶ SSDI "absorbs people who might otherwise work"

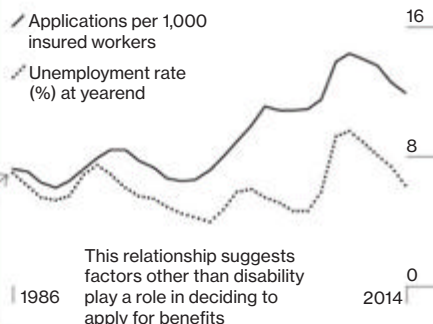
When President Eisenhower added disability benefits to Social Security in 1956, he pledged that the new program would be run "efficiently and effectively" and that it would help "rehabilitate the disabled so that they may return to useful employment."

Six decades on, Social Security Disability Insurance has 1 million rejected applications pending appeal, pays out 25 percent more in benefits (\$141 billion last year) than it gets in taxes, and is set to be insolvent by the end of 2016. There are currently 11 million people on disability. In 2013 less than 1 percent left the program by recovering or reentering the workforce, according to SSDI data.

The Social Security Administration says the looming insolvency is largely the result of "demographic changes that could be seen far in advance, such as the entry of more women into the workforce, and the progression

A Busted System?

Social Security Disability Insurance applications mirror the job market



DATA: SOCIAL SECURITY ADMINISTRATION, BUREAU OF LABOR STATISTICS

of the Baby Boom generation into its most disability-prone years," SSA Acting Commissioner Carolyn Colvin told the Senate Budget Committee in February. An SSA spokeswoman answered questions by e-mail. Requests to speak to a senior official were turned down.

An audit by the Office of the Inspector General released on June 4 estimates that from 2003 to 2013, 45 percent of all SSDI beneficiaries were overpaid. That cost SSDI almost \$17 billion, though \$8 billion of that was eventually recovered. The program still uses medical guidelines from the 1970s to determine an applicant's ability to work, and the decision often depends on the whims of state-level examiners.

SSDI provides crucial support for millions with severe disabilities, yet economists say it does more to keep people capable of some work out of the labor force than it does to find ways for the disabled to work. This helps explain a mystery of the sluggish recovery: why adults in their prime keep dropping out of the labor force. "What is especially problematic is that [SSDI] absorbs people who might otherwise work when economic conditions improve," says Stanford economist Mark Duggan. Commissioner Colvin said in her testimony that SSDI rigorously screens applicants to weed out the undeserving.

Since 1989 the share of the population receiving SSDI benefits has more than doubled, to 5 percent of people aged 25 to 64. Research by Duggan and David Autor, an economist at MIT, attributes much of that jump to financial incentives. Disability benefits have become more valuable to younger workers, who figure no company will give them a pension. That's helped lead to a change in the type of ailments cited by people applying for benefits, say Duggan and



Autor. In the 1970s most new SSDI enrollees suffered from maladies such as heart disease and cancer. Today, it's back pain and mental illness.

From 2007 to 2010, as the jobless rate rose, the number of SSDI applications went up 28 percent. A fourth of that increase stemmed from the bad economy, says Nicole Maestas, an economist at Harvard who co-wrote a recent paper that measured the recession's impact on SSDI. "We found that the new applications were in large part coming from people with less severe impairments," she says. While almost all those applicants were denied benefits at first, many probably went on to appeal, says Maestas.

David Hatfield spent 17 years as a judge hearing benefits appeals. In deciding if someone qualified, he had to follow outdated medical guidelines that he says required him to grant disability benefits to some people he thought were capable of work. An appeal typically takes more than a year to be heard by a judge. During that time, SSDI allows applicants to earn up to just \$1,080 a month or risk being disqualified. The idea is that if they can earn a living, they're not truly disabled. "We've created a system that encourages workers to think about all the things they can't do, rather than all the things they can," says Richard Burkhauser, an economist at Cornell.

One fix would be to engage with beneficiaries earlier in the process to treat their disability and find ways to keep them working. "That doesn't happen until years down the road, if at all," says Burkhauser, who says SSDI could benefit from assigning case managers to applicants. That would require a long and costly reform process.

To avert insolvency, Congress will likely do what it did in 1994, the last time SSDI faced a crisis. Lawmakers would divert part of Social Security's payroll tax revenues to SSDI to avoid cuts in benefits. This would buy SSDI an additional 17 years but leave unchanged the problems economists say led to the insolvency. "It often takes a crisis before Congress will act to do substantial reform, and we have the makings of one here," says Duggan. —Matthew Philips

The bottom line Economists say the U.S. disability insurance program discourages people from working.

B Edited by Christopher Power and Cristina Lindblad
Bloomberg.com

Forecasting

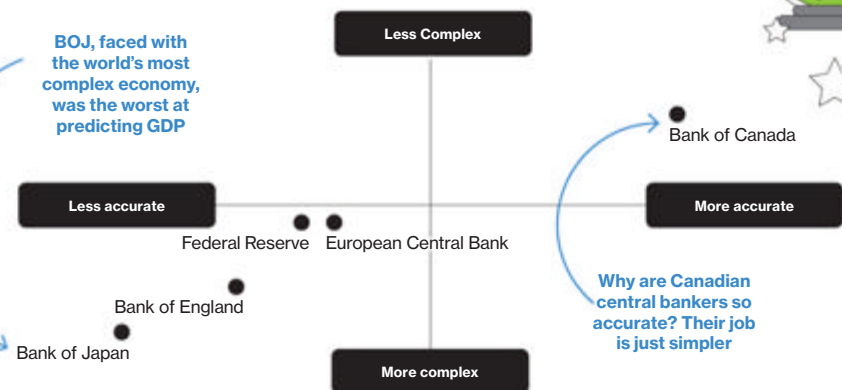
By Andre Tartar, Josh Robinson, and Jennifer Ryan

Which Banks Get It Right?

Economic forecasts by the world's central banks are relied on by policymakers and corporations. Some are more accurate than others. An analysis of predictions by five banks spanning the G-7 group of developed countries suggests more complicated economies are harder to figure out.

Economic complexity clouds the crystal ball

The Economic Complexity Index is a ranking devised by MIT researchers that uses trade data to capture the diversity and sophistication of an economy. Accuracy scores are based on the weighted differences between banks' predictions for GDP growth and inflation and the actual outcomes in each of the last 10 years.



How the banks forecast from 2005 to 2014

— Forecast — Actual rate

Complexity ranking out of 144 nations

Bank of Canada

35

European Central Bank

14

Federal Reserve

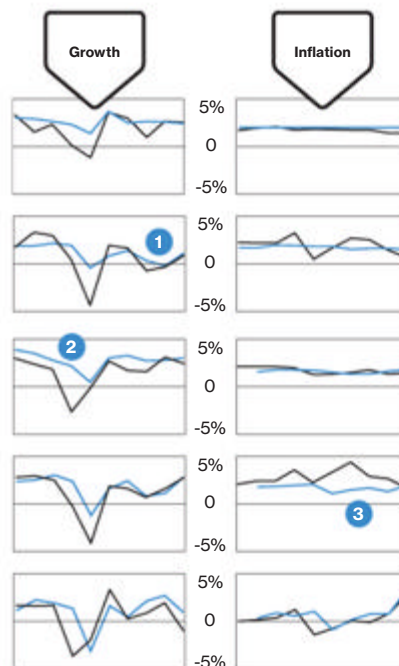
12

Bank of England

8

Bank of Japan

1



1
The only central bank to significantly outperform the International Monetary Fund on growth forecasting

2
The Fed's GDP growth estimate overshot actual performance in 9 out of the last 10 years

3
The U.K. central bank was the worst inflation forecaster and had the biggest inflation miss, in 2011

July 6 — July 12, 2015



Dissatisfaction with fast-food pay was on the menu at a union rally in New York in April

The SEIU's Odd Recipe For Unionizing Fast Food

- It wants the big restaurant chains to pressure their franchisees to allow unions
- “McDonald’s is the company ... that has the money and the power to change the system”

The Service Employees International Union, one of the nation’s largest labor groups, is battling to organize America’s fast-food workers. Since 2012 the union has spent more than \$25 million on a campaign that’s included backing lawsuits over alleged unpaid wages and racially motivated firings, promoting legislation to change the franchise system, and occasionally mounting attention-grabbing strikes. The goal is to put so much pressure on companies like

Wendy’s, Burger King, and especially industry leader McDonald’s that they agree to raise pay and embrace unionization. There’s only one problem: Almost all the people SEIU wants to organize aren’t directly employed by the fast-food giants they’ve gone to war against.

Instead, the big chains contract out the management of most stores to thousands of small franchisees, legally distinct companies that hire the workers, run the business, and pass a

cut of their sales back to headquarters. Most people flipping burgers under the Golden Arches don’t get McDonald’s paychecks, and even fewer will in the future, since Chief Executive Officer Steve Easterbrook’s turnaround strategy for the chain includes increasing the global share of its franchised stores to 90 percent, from 81 percent now.

That hasn’t stopped the SEIU and its allies from arguing in lawsuits and the media that McDonald’s still exerts plenty



This DuPont spinoff
could be dirty 18

Success is spoiling
China's state-run
carmakers 19

Marketers are
becoming mind
readers 20

Briefs: GE's fight with
the feds; SpaceX gets
grounded 21

of control over the cooks and cashiers at its franchised restaurants. As evidence, critics say the corporation sets a dress code, decides what software is used in each location so it can track how many people are on the clock, and dispatches “mystery shoppers” to make undercover visits and assess each store’s compliance. By highlighting that close oversight, the union plans to persuade the public that corporate McDonald’s should be held accountable for the wages and working conditions at its franchisees’ stores—and help franchisees pay the costs of improving them. The SEIU has also brought union-busting allegations against McDonald’s to the National Labor Relations Board, which is considering treating the corporation as a “joint employer” of franchised workers along with the franchisees. McDonald’s has said treating it that way was a radical departure from precedent.

“The SEIU wants to alter the entire franchise model,” says Steve Caldeira, president of the International Franchise Association, whose members include McDonald’s and some of its franchisees. “It all comes back to money: The union’s got to find their bacon somewhere, and they’re using McDonald’s.”

McDonald’s, which in 2015 raised pay at company-owned stores to at least \$1 more than local minimum wages, didn’t respond to requests for comment for this story. The SEIU declined to discuss its legal strategy. Scott Courtney, the architect of the SEIU’s fast-food campaign, told reporters in May that McDonald’s should return a portion of its billions in annual profit to franchisees so they can pay workers more. “McDonald’s is the company ... that has the money and the power to change the system, and the franchisees are stuck just like the workers are,” Courtney said.

As long as McDonald’s isn’t the franchised workers’ boss, the National Labor Relations Act governing collective bargaining doesn’t give them the right to negotiate directly with the corporation. The SEIU has instead tried to turn public opinion against McDonald’s in hopes the chain will become more union-friendly to bolster its brand. “Everything about this is a little unusual,” says Wilma Liebman, former NLRB chair, who’s consulted for the SEIU.

The union has helped place

embarrassing stories in national media on topics such as a sample personal budget McDonald’s shared with employees that was based on working two jobs. It also has encouraged a European Union investigation of tax practices at the burger giant, which has denied wrongdoing. The bad publicity may be having an effect. On June 30, the American Customer Satisfaction Index announced McDonald’s had received the lowest score among major restaurant chains in its annual survey.

The SEIU staff has also worked with disgruntled franchisees to push challenges to the industry’s lucrative franchise business model. “We’re in a position in which we need the assistance of any organization, for that matter, to help us get our point across to McDonald’s corporate,” says Jose Quijano, one of several franchisees in Puerto Rico involved in a local dispute with McDonald’s. Quijano has joined the union in urging the Federal Trade Commission to investigate franchising.

Labor’s strategy against McDonald’s shows how union campaigns have changed as employment setups have grown more complicated. Starting in the 1980s, the SEIU successfully used a mix of strikes, media, and political pressure in cities such as Los Angeles, Washington, and Houston to squeeze commercial real estate owners to get the contractors cleaning their buildings to let employees unionize. “The Justice For Janitors strategy was: Go to the top of the food chain, or the economic pyramid, and figure out how do you put the maximum economic and social and political pressure on someone,” says that campaign’s architect, former SEIU strategist Stephen Lerner.

Adding “labor peace” provisions to franchise contracts, however, could be tougher. Under state franchise laws, franchisers like McDonald’s usually can’t change contract terms until franchisees

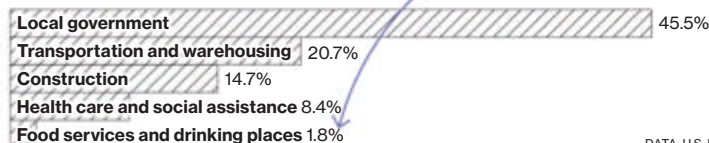
renew, or when fresh franchisees sign on. Franchisees “either take it, or they leave the system,” says Roger Schmidt, who teaches franchise law at Baylor University. McDonald’s has 20-year contracts and 700,000 workers employed by franchisees, so phasing in changes could take many years if franchisees resist. Still, “if they can prescribe advertising, and cleanliness, and this whole list of things they obligate, they absolutely could prescribe what labor relations should be,” says former SEIU organizer Lerner. Liebman, who’s done legal work for the SEIU in the past, agrees: “One of the ways they could do it is to say, ‘We want wages to be a minimum of X.’”

Union advocates say small franchisees could agree to bargain as a group with the SEIU, either regionally or nationwide. “The reason that multiemployer bargaining and coordinated bargaining might make sense here,” says Paul Secunda, who directs Marquette University’s labor and employment law program, “is because where we’ve seen multiemployer bargaining historically is in so-called itinerant industries,” where workers often switch employers while staying in the industry. The Teamsters have negotiated contracts that apply across hundreds of companies. And even if McDonald’s corporate wasn’t at the bargaining table, it could shape what happened there by requiring certain benefits in its franchise agreements, or by defraying some labor costs by letting franchisees keep a greater share of revenue. “You put together a group of creative lawyers, and it happens,” Liebman says.

That’s not likely to occur any time soon. While the wage protests and government investigations have become a cause for concern, “from investors, definitely the pressure is to reduce some cost” while giving franchisees greater operating freedom, says Darren Tristano, who leads restaurant

Disorganized Labor

Share of U.S. employees represented by unions



Representation in this sector, which includes fast-food workers, hasn't been above 2 percent since 2001

DATA: U.S. BUREAU OF LABOR STATISTICS

Companies/Industries

◀ consulting at Technomic. As for the labor struggle, “that’s one of those situations that makes sense to win the legal battle rather than compromise.”

Even franchisees who’ve joined the SEIU to challenge McDonald’s on other issues might reject union calls for more spending on employees. Says Luis Moyett, another of the franchisees in Puerto Rico collaborating with the union: “Right now, we cannot afford to increase wages, because we ourselves are in desperate straits.”

John Dienelt, who teaches franchise law at Georgetown University, expects resistance to unions will remain fierce. Says Dienelt: “If McDonald’s were to make a deal with either the NLRB or the union, you would see pigs flying across the sky.” — *Josh Eidelson*

The bottom line About 750,000 workers at McDonald’s restaurants are employees of franchisees. That makes unionization tough.

Chemicals

Can DuPont Spin Off Its Liabilities?

► Its 37 active chemical plants—and EPA problems—will go to Chemours

► “The parent is not going to be able to strip itself” of accountability

When **DuPont** announced plans to spin off its major chemical operations in October 2013, it said the move would create a cash-generating dynamo with the leading market share in most of its businesses. The spinoff would let DuPont focus on higher-value products such as solar-panel materials and genetically modified crop seeds, as well as alternatives to fossil fuels.

The new company, **Chemours**, created on July 1, inherited 37 active plants globally that produce materials such as titanium dioxide, a pigment that adds opaqueness to paints, and fluorochemicals such as Teflon nonstick coatings. DuPont investors have been given one Chemours share for every five DuPont shares they own. Chemours will owe DuPont a \$4 billion dividend for share buybacks, too. Chemours shares, which have been trading since June 19, have fallen 21 percent.

Chemours is also on the hook for something uglier: potential liabilities



at 171 sites in the U.S., not all of which have been identified. These may include as many as 25 active U.S. factories. Investors don’t know how much more will be required to respond to Environmental Protection Agency cleanup demands at those sites or whether additional personal-injury lawsuits will arise.

Cleanup of the 171 sites, DuPont says, will cost from \$295 million to \$945 million. “In general, the experience is cleanups cost more than anyone ever thinks,” says Ronald Gilson, a professor of law and business at Stanford and Columbia law schools. One site alone, in Pompton Lakes, N.J., where for 97 years DuPont made explosives that polluted the soil with mercury and lead, could cost \$116 million, Chemours says. (The EPA is still investigating the property around the inactive plant.)

Environmental costs for a site in Parkersburg, W.Va., that produced perfluorooctanoic acid (PFOA) used in Teflon could reach \$1 billion, according to Keep Your Promises DuPont, an activist group in the mid-Ohio Valley. The chemical, which DuPont phased out in 2013, has been linked to cancer. In trials beginning later this year, Chemours faces 3,500 personal-injury and 32 wrongful death claims involving Parkersburg. Chemours estimates the cost to remove PFOA pollution at its sites will be \$14 million. It is also required to fund up to \$235 million for medical monitoring in the Parkersburg community and pay whatever liabilities come from the personal-injury suits.

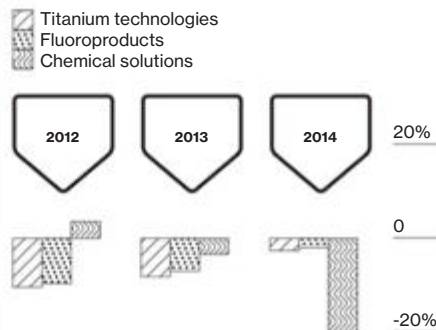
Chemours executives and shareholders are betting the new company will be profitable enough to pay for the environmental liabilities, says Edward Adams,

New Company, Old Problems

Chemours faces at least two significant challenges:

Declining sales

Change in annual revenue at Chemours’s units



Environmental costs

Four sites with known environmental issues:

Washington Works Parkersburg, W.Va.
About 80,000 nearby residents sued DuPont in 2001 alleging they suffered from exposure to C8, an agent used to make Teflon. They settled in 2004, but more than 3,500 personal-injury claims are pending.

Chambers Works Deepwater, N.J.
The EPA fined DuPont this year for improperly maintaining two large refrigeration units to minimize leaks of chlorofluorocarbons, which deplete the ozone layer and are linked to skin cancer.

Edge Moor Edgemoor, Del.
The EPA and Delaware sued DuPont in 2011 over alleged contamination of soil and water with metals, as well as volatile organic compounds. DuPont admits no wrongdoing, but it paid a \$500,000 penalty and agreed to study wastewater collection and treatment systems at the plant.

Inactive site, Pompton Lakes, N.J.
DuPont produced fuses and explosives here from 1902 to 1994, polluting the soil and groundwater. The EPA has called on Chemours to dredge mercury from 36 acres of lake bottom and around the shoreline.



A 2012 warning not to eat fish from this lake in Pompton Lakes, N.J., site of a DuPont plant

a professor of finance and law at the University of Minnesota and a DuPont shareholder. Chemours products accounted for 19 percent of DuPont's sales last year. The company, however, has inherited 62 percent of DuPont's environmental liabilities.

DuPont isn't the first corporation to try to transfer liabilities through a spinoff. Isolating liabilities is "not an insubstantial reason for doing spinoffs," says law professor Gilson. Companies want to isolate uncertainties, he says.

In 2009 the EPA and the Department of Justice sued Anadarko over the environmental obligations of Tronox, a chemical maker spun off by Kerr-McGee in 2005. (Anadarko bought Kerr-McGee after the spinoff.) Tronox made most of its income from titanium dioxide. It filed for bankruptcy and in the trial was found liable for cleanup costs at 2,800 sites. The EPA demanded \$25 billion to clean up the sites and eventually settled for \$5.15 billion from Kerr-McGee and Anadarko. Amer Tiwana, a credit analyst at CRT Capital, says Chemours bears some similarities to Tronox. "With four times leverage on the business, they certainly seem to be loading up Chemours with debt," he says.

Credit ratings company Moody's said in an April 27 report that Chemours has a "high financial leverage" compared to its peers, with a debt-to-earnings ratio of 4.7. Moody's analyst Joseph Princiotta also cited, "significant near-term litigation risk" from two trials over PFOA scheduled to begin this fall and four in 2016. DuPont may not be able to untangle itself from Chemours's liabilities, if the new company can't pay them. "The parent is not going to be able to strip itself of liability. There is no way a court

can allow that," says Adams.

"We're a very well-capitalized company," says Mark Vergano, Chemours's chief executive officer. "We have the leading position in the marketplace and the lowest-cost position. I feel confident in our ability to compete well." DuPont and Chemours "are committed to continuing to fulfill all of their environmental and legal obligations," says DuPont spokesman Dan Turner.

The market for titanium dioxide may improve before Chemours faces any big payouts for environmental cleanup. Titanium dioxide prices are at a three-year low because of oversupply, with dim prospects for an imminent recovery. Declining demand probably won't change soon, according to CRT's Tiwana.

Sales of the pigment could recover, says Jim Sheehan, a SunTrust Robinson Humphreys analyst. Chemours's business lines, he says, are "the real dirty part of DuPont" and "just happens to be where a lot of the liabilities are."

—*Tiffany Kary and Jack Kaskey*

The bottom line DuPont could be on the hook if Chemours can't pay for environmental cleanup and personal-injury lawsuits.

Autos

Why China's Bid for Auto Self-Sufficiency May Fail

► Working with foreign manufacturers lets government-run outfits get lazy

► "The state-owned carmakers are still addicted to the easy profits"

For years, what's good for **General Motors** and **Volkswagen** has been great for China's largest state-owned carmakers. In the 1990s the Chinese government required foreign players to enter joint ventures with domestic partners to operate in the country. GM teamed up with state-backed **SAIC Motor**; Volkswagen joined with government-controlled **China FAW Group**. The Western automakers got access to what's become the world's biggest auto market. Their Chinese partners got technology and half the profits, which was supposed to allow them to become global players.

As China's newly affluent consumers bought their first autos, often with a Buick or

VW badge on the hood, the Chinese companies reaped hundreds of millions in profits from their privileged positions. But lately the market has changed. China's chosen champions such as SAIC and FAW are struggling as private-sector rivals **Great Wall Motor** and **Zhejiang Geely Holding Group** move faster to cater to China's accelerating demand for cheap SUVs.

The over-reliance by state-owned carmakers on foreign partners and their pricey sedans and luxury vehicles is challenging the notion that an active, autocratic state can set industrial policy and fuel growth, a model China offered as an alternative to the free-market democracies of the U.S. and Europe. "The government got it all wrong," says Jochen Siebert, Shanghai-based managing director at JSC Automotive Consulting. "The state-owned carmakers are still addicted to the easy profits from producing and selling cars for foreign brands."

China's 1994 mandate requiring foreign carmakers to form ventures at least 50 percent-owned by a Chinese partner had an explicit goal to create three or four internationally competitive homegrown auto giants by 2010. Instead, the policy has drawn criticism for shielding state-owned carmakers from competition and robbing them of the incentive to build their own brands. The government removed its target of establishing a Big Four for the industry in 2009 and set a goal for local carmakers to capture more than 90 percent of the domestic market, without a time frame. Among the reasons that will be difficult: China's carmakers continue to lack innovation and lag behind in key technologies, Miao Wei, the minister in charge of the auto industry, said at last year's National People's Congress.

Foreign brands dominate the domestic market, with a combined 61 percent of passenger-vehicle sales in May. Yet the independent local manufacturers are gaining fast, with sales at Great Wall (maker of the popular **H6** SUV) and Geely up 22 percent and 40 percent, respectively, this year. The average price of the best-selling Chinese SUVs in the first five months of 2015 was 83,542

yuan (\$13,459), vs. 200,500 yuan for the foreign models, according to dealership ►



◀ quotations compiled by Autohome, a car-pricing website. Annual output of SUVs in China should reach more than 7.0 million vehicles in 2018, up from 4.3 million last year, estimates researcher IHS Automotive.

"It is not that Chinese consumers are addicted to foreign brands. They would go for local ones if we develop good products."
— Gui Shengyue, Geely CEO

Sales this year at SAIC fell every month but one as demand slumped for Buicks and Chevrolets. SAIC's own marques, MG and Roewe, plunged 34 percent in the first five months, in a market that grew 6.4 percent. At FAW, which also has a joint venture with **Toyota Motor**, deliveries fell 5.8 percent in the first five months, Merrill Lynch data show. FAW didn't reply to e-mails seeking comment.

SAIC Chairman Chen Hong defends his partnership with GM, saying it's been successful despite the slump, and his company needs to "reflect" on the poor performance of its own brands. He says Chinese consumers prefer to buy foreign in more than 60 percent of cases even if a rival Chinese brand offers a car of the same quality that costs less. Gui Shengyue, Geely's chief executive officer, disagrees. "It is not that Chinese consumers are addicted to foreign brands," says Gui, whose company plans to raise its sales forecast because of better-than-expected demand for its new models. "They would go for local ones if we develop good products."

Part of the problem plaguing state-owned carmakers is that they're headed by political appointees who care mostly about building their careers, says JSC's Siebert. There's little incentive to take risks to build their own brands, and when they report on how successful they've been, they're usually referring to their joint ventures, he says.

In contrast, Geely Chairman Li Shufu is an entrepreneur: He used to work photographing tourists and manufacturing compressors for refrigerators before entering the automotive industry in 1989 by producing motorcycles. Great Wall was founded by Wei Jianjun, who built it into China's biggest SUV maker by emphasizing discipline and frugality.

Still, there are signs the state plans to continue its strong role in car manufacturing. Miao, the industry minister, said last year that China isn't changing the cap on foreign ownership. The state-backed auto association warns

that Chinese brands will be wiped out if the cap is lifted. "I don't see strong intention from the government to really force the state-owned companies to compete with foreign brands," says John Zeng, Shanghai-based managing director of researcher LMC Automotive. —Alexandra Ho, with Tian Ying

The bottom line The average price of SUVs built by local Chinese carmakers was \$13,459 in the first five months, half that of foreign models.

Consumer Goods

Marketers' Next Trick: Reading Buyers' Minds

- ▶ Advertisers use neuroscience to cut through messaging clutter
- ▶ The brain "is an already over-clocked and overloaded system"

Facebook this spring asked **SalesBrain**, a San Francisco company, to gauge how consumers responded to ads viewed on a smartphone vs. a TV screen. Neural researchers used various sensors to measure perspiration, heart rate, eye movement, and brain activity of 70 study participants. They came to the surprising conclusion that people get more out of information on a mobile phone than on a TV and that watching television forces their brains to work harder to combat distractions. "Our physical closeness to the mobile screen has shifted our perception of the size of the device," says Helen Crossley, the head of audience insights for Facebook IQ, the company's internal market research unit. "It is drawing us in to be more attentive and feel more positive about the content."

A host of new companies founded

or staffed by brain researchers has some advice for advertisers: Read your customers' minds. In a world of ever-shrinking attention spans, where consumers flit through social media sites and skip right past online ads, advertisers are turning to neuroscience to better understand how to steer buyers toward their products. "People are not governed by the rational side of their brains, so the majority of purchase decisions are made irrationally," says Itiel Dror, a Harvard-trained neuroscientist engaged by London consultants **BrandOpus** to test the redesign of a logo for Canada's **McCain Foods**. Dror asked 1,700 shoppers in seven countries to match phrases such as "family," "warmth," "mass-produced," and "factory" with McCain's old logo—the company name within a plain black box—and a new one depicting a sun setting over farmland. McCain is rolling out the new version in 160 countries.

These companies use methods such as eye tracking, brain scanners, and facial coding—cameras that analyze people's expressions and assess their mood second by second—to determine reactions to ads. The Neuromarketing Science & Business Association, started in 2012, has more than 1,000 members in 91 countries. The field helps advertisers create simple messages that "deliberately mix conscious recall with unconscious," says Dan Machen, director of innovation at **HeyHuman**, a neuroscience-focused ad agency in London. "We need to think of the recipient's brain as an already overclocked and overloaded system."

The industry's traditional powers are taking notice. **Millward Brown**, a research arm of ad giant WPP, says it started exploring neuroscience four years ago and that it now uses facial coding to test every TV spot it works on. In April, London ad agency **Dentsu**

Gray Matter

Advertisers are turning to neuroscience to gain a better understanding of what consumers want. Some techniques:

Eye Tracking

Special glasses and sensors can detect where the eyes are focused to measure which part of a Web page or ad is getting the most attention.

Facial Coding

Cameras and special software analyze facial expressions to gauge reactions to TV ads and other video content.

Biometrics

Changes in heart rate, breathing, and subtle movements can signal varying responses to promotions and brands.

Electroencephalogram (EEG)

Researchers strap electrodes to the scalp to measure brain waves and assess interest in creative concepts, ads, or packaging.



Briefs

Spin Cycle

By Jennifer Chaussee

Aegis purchased Forbes Consulting Group, a neuroscience company in Massachusetts. And ratings giant **Nielsen** in May bought Innerscope Research, a neuroscience firm in Boston that's helped companies such as **Campbell Soup** and **Yahoo!** study customers via biometric tests that monitor heart rates and skin conductivity.

"There's no question we're seeing an uptick not only in business, but also in the diversity of clients and the number of those making bigger investments," says Dr. Carl Marci, a neuropsychiatrist with an M.D. from Harvard who co-founded Innerscope a decade ago.

For one Innerscope project last year at **Time Warner's** media lab, the company hooked participants up to facial trackers and eye scanners as they watched *Conan*, *Dallas*, *Men at Work*, and other TV shows. Innerscope used the devices to measure reactions to placement within the shows of brands such as Samsung, M&Ms, and Pop-Tarts. Scientists could then decipher when product placement was too obvious—characterized by participant frowns or snickers—or so subtle that it wasn't even noticed. "Biometrics allows us to eliminate any bias in response, and we get a real sense of engagement," says Howard Shimmel, chief research officer at Time Warner's Turner Broadcasting.

Neuro-Insight, a neuromarketing firm in London, last year helped **Twitter** assess reactions to content by fitting people with headsets to measure brain activity while online. The researchers found that when the subjects browsed their Twitter timelines, their brains were almost as active as when they were opening physical mail—and far more engaged than when they were reading websites or watching video. Another insight of potential value to advertisers: When scrolling quickly through a timeline, users didn't register brand icons unless they were simple and boldly colored, according to Heather Andrew, chief executive officer of Neuro-Insight. "Those things that people don't know how to put into words," she says, "we can measure."

—Kristen Schweitzer

The bottom line Advertisers are using neuroscience research to better understand consumer reactions to products and brands.

●📷● The U.S. Justice Department has filed an antitrust lawsuit challenging *Electrolux's* \$3.3 billion acquisition of *General Electric's* appliance unit, saying it would create a duopoly with *Whirlpool*. GE and Electrolux say they will contest the allegations.

●🚫● Government officials in the Chinese gambling hub of Macau announced plans to ban smoking in all casinos. The regulation extends an existing smoking ban on gambling floors to include VIP

rooms, and abolishes smoking lounges. The move is expected to further depress gaming revenue. ●✈️● **SpaceX** postponed the launch of a weather satellite for the National Oceanic and Atmospheric Administration after its Falcon 9 rocket

exploded in midair on its way to the International Space Station. The mishap prompted an internal review that could delay other launches. ●📱● European policymakers reached an agreement on a proposal to ban telecom companies from charging cell phone customers roaming fees. The plan, which would take effect in mid-2017 if approved by the European Parliament, could cost mobile service providers as much as \$7.8 billion in lost revenue by 2020, telecom leaders say. ●📁● **ConAgra's** chief executive officer, Sean Connolly, is caving to shareholder

pressure and unraveling the \$6.7 billion acquisition of *Ralcorp*, which makes supermarket private-label brands of cereal and pasta. Sales have slumped since the 2013 purchase, prompting calls from investors to divest. ●🔪● Novelist Stephen King released an audiobook of his new short story, "Drunken Fireworks," months ahead of its print release. The 12,200-word story is available on CD for \$11 or as a digital download for \$10.



Kentucky Fried Chicken became the first major Western fast-food chain to open in Myanmar, thanks to a deal between KFC's parent company, Yum! Brands, and Yoma Strategic Holdings, based in Singapore.

JetBlue's new fee, effective on July 1, to check one bag on a domestic flight online or at a self-service airport kiosk (\$25 if you do it at the ticket counter). The airline used to advertise one free checked bag with every flight.

\$20

Founder's Dilemma



"The clock is ticking... There are only so many hours in the day."

Donna Karan, chief designer at Donna Karan International, on her decision to retire and focus on another venture



Edited by James E. Ellis and Dimitra Kessenides
Bloomberg.com



The Peaceniks on the Rockefeller Payroll

► Freelance diplomacy backed by the family paved the way for nuclear talks with Iran

► “They don’t trust us, and we don’t trust them”

Cutting a nuclear deal with Iranian President Hassan Rouhani and Ayatollah Ali Khamenei would be the easy part for President Obama, who must then persuade both houses of Congress to sign off on the pact. Republicans and many Democrats abhor the idea of lifting sanctions and readmitting oil-rich Iran to the global economy until it disavows all nuclear research and stops meddling through proxies in Iraq, Lebanon, Syria, and Yemen.

Advocating for an Iran truce is a loose coalition of peace groups, think tanks, and former high-ranking U.S. diplomats bound together by millions of dollars given by the Rockefeller family through its \$870 million Rockefeller Brothers Fund. The philanthropy, which is run by a board split between family members and outsiders, has spent \$4.3 million since 2003 promoting a nuclear pact with Iran, chiefly through the New York-based Iran Project, a non-profit led by former U.S. diplomats. For more than a decade they’ve conducted a dialogue with well-placed Iranians, including Mohammad Javad Zarif, now Tehran’s chief nuclear

negotiator. The Americans routinely briefed officials in the George W. Bush and Obama administrations, including William Burns, Obama’s former deputy secretary of state. Burns hammered out much of an interim nuclear agreement in secret 2013 talks with his Iranian counterparts that paved the way for the current summit in Vienna, where Secretary of State John Kerry leads the U.S. delegation.

The Rockefellers’ Iran foray began in late 2001, after the Sept. 11 attacks. Stephen Heintz, president of the Rockefeller Brothers Fund, convened a board retreat at the Rockefellers’ Pocantico Center in Westchester, just north of New York City, to consider new approaches to the Islamic world at a time when the U.S. was focused on the threat from al-Qaeda. One invited speaker was Seyyed Hossein Nasr, an Iranian-American professor of comparative religion then at Georgetown University. “He got me thinking more and more about Iran, its geostrategic importance and its relationship to the Sunni world,” says Heintz.

The Rockefeller fund decided to create the Iran Project in

cooperation with the United Nations Association of the U.S., a nonprofit that promotes the UN's work then headed by William Luers, a career diplomat who served as ambassador to Venezuela and Czechoslovakia. Luers made contact with Zarif through Iran's mission to the UN in New York. He also recruited career diplomats Thomas Pickering, who served as Ronald Reagan's ambassador to Israel and George H.W. Bush's ambassador to the UN, and Frank G. Wisner, who served as Reagan's ambassador to Egypt and whose father was a high-ranking officer in the Office of Strategic Services and then in the CIA. "Each of us came from a special place on the compass," Wisner says.

With encouragement from the Bush administration, says Heintz, the trio developed a relationship with Zarif, who was stationed in New York representing Iran at the UN. In early 2002, the Iran Project set up a meeting with Iranians affiliated with the Institute for Political and International Studies in Tehran, a think tank with close government ties. It was hosted by the Stockholm International Peace Research Institute at a small hotel outside Stockholm. The Iranians came armed with talking points, Heintz says, and the meetings were stiff and unproductive. The initial goal of developing a road map to restoring relations between Washington and Tehran, along the lines of Nixon's 1972 Shanghai Communique preceding U.S.-China relations, proved elusive, according to Pickering. After every meeting, Heintz says, Iran Project leaders would brief staffers at the State Department or White House, including Stephen Hadley, Bush's national security adviser, and Condoleezza Rice, his secretary of state. "As we had no contacts at all with Iran at the time, their insights were very valuable," says R. Nicholas Burns, who served as under secretary of state for political affairs under Bush.

The secret meetings in European capitals were suspended after Mahmoud Ahmedinejad won Iran's presidency in 2005. But the group's relationship with Zarif proved key in helping to jump-start negotiations after he was made foreign minister in 2013 by Rouhani, the newly elected president. A State Department official says the administration welcomes back-channel efforts like the Iran

Project's because "it proves useful both to have knowledgeable former officials and country experts engaging with their counterparts and in reinforcing our own messages when possible."

The Iran Project kept an eye on public opinion from the start. Among those invited to its events in New York was Robert Silvers, editor of the *New York Review of Books*, who found them "helpful in framing ideas for a workable nuclear treaty," he says, like letting the Iranians keep a limited capacity

"Everyone knew that a huge amount depended on how far the Iranians would go."
—Robert Silvers, publisher, *New York Review of Books*

for enriching uranium to save face. "But everyone knew that a huge amount depended on how far the Iranians would go." Silvers published multiple essays detailing the proposals by Pickering and Jessica Mathews, another Iran Project participant who preceded William Burns as president of the Carnegie Endowment for International Peace. The Iran Project's briefing papers have provided a counterweight to criticism from pro-Israel groups, led by the American Israel Public Affairs Committee, opposed to a deal.

For Wisner, breaking bread with Iranians exorcised a few ghosts. He was on Secretary of State Cyrus Vance's senior staff during the Iranian revolution and the hostage crisis in 1979 and knew diplomats held at the embassy. "I lived that," he says. He also remembers listening to his dad planning the military coup that removed Iran's democratically elected prime minister, Mohammad Mosaddegh, from power in 1953 and replaced him with the U.S.-backed shah, Reza Pahlavi. "They don't trust us, and we don't trust them," says Wisner. He says his father's role in the Mosaddegh coup didn't come up in any of the Iran Project meetings. "The Iranians, like us, have made a major political decision to engage," he says.

The Rockefeller fund has given about \$3.3 million to the Ploughshares Fund, a San Francisco-based disarmament group that has spent \$4 million since 2010 to promote a deal with Iran and shepherded the peace groups and think tanks it supports to back Obama. "We're trying to leverage our investments to play on our strengths," says Joseph Cirincione, its president.

On June 23, when the *New York Times* ran an op-ed, "The Iran Deal's Fatal Flaw," Ploughshares coordinated its grantees' responses to the claim that the deal would leave Iran capable of producing a nuclear weapon within three months. The Arms Control Association, a nonpartisan group established in 1971, published a rebuttal on its daily blog, which other Ploughshares-affiliated groups sent to their contacts in Congress. "The pro-deal side has done a very good job systematically co-opting what used to be the arms control community and transforming it into an absolutist, antiwar movement," says Omri Ceren, senior adviser for strategy for the Israel Project, a nonprofit that opposes a deal. "Sometimes, if your goal is stopping the proliferation of weapons of mass destruction, you have to make the hard decision to take military action, or at least signal you're willing to." Cirincione says that mistakes the rationale behind the Iran Project. "Iran is the boulder in the road," he says. "You have to resolve this issue to get to the rest of the nonproliferation agenda. That's why we're doing this." —Peter Waldman

The bottom line Former diplomats backed by the Rockefeller family are working to build support for Obama's nuclear deal.

Labor

Obama's Overtime Rule Catches Up With Reality

► The tightening labor market is moving faster than new regulations

► "The less skilled segments of the population are seeing wage gains"

On June 30, President Obama announced that, starting sometime in 2016, workers making less than \$970 a week—or \$50,440 a year—will automatically qualify for overtime pay if they work more than 40 hours a week, even if their employers classify them as managers. The White House estimates the change could give 4.7 million people a raise.

Federal rules determining who qualifies for overtime pay are currently set at a threshold of \$455 per week—\$23,660 ►

◀ a year, or less than poverty wages for a family of four. Standards on who qualifies as a manager were broadened in 2004 under George W. Bush so that workers who spend most of their time stocking shelves, waiting tables, or running a cash register can be cut out of overtime protection so long as their duties include supervision of at least two employees. Some states, including California, use definitions that make it harder to exempt workers with managerial duties from overtime pay. The new rules would index the baseline income threshold to inflation to ensure that workers at the 40th percentile of earning or below are covered, according to Labor Secretary Thomas Perez.

Obama's decision is most likely to affect workers in health care, financial services, retail stores, and restaurants. "You would be hard pressed to find a rule change that would reach more middle-class workers than this one," says Jared Bernstein, a former economic adviser to Vice President Joe Biden who's now a senior fellow at the Center on Budget and Policy Priorities, a Washington think tank.

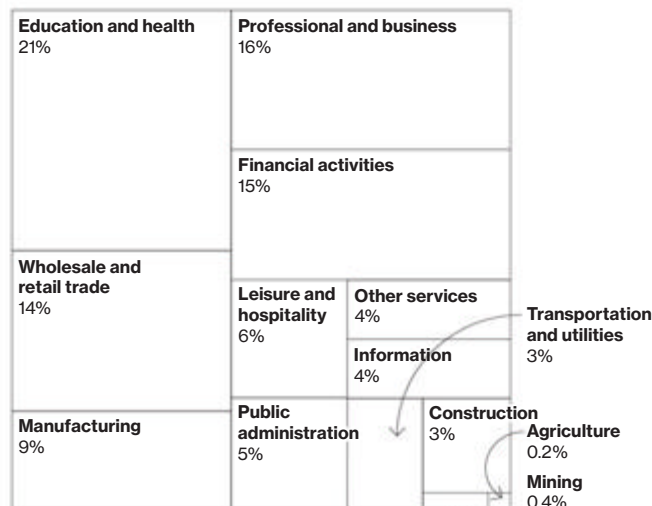
That may be true. But the labor market has lately supplied a boost to lower-wage workers without any help from the government. Average hourly earnings in industries paying less than \$12.50 an hour on average have risen 3.2 percent in the past year, a full percentage point more than wage growth for the job market as a whole and faster than wages at any other income level, according to new research from Goldman Sachs. The increases are being driven in part by state and city minimum-wage increases across the country, but much of the growth is due to companies' voluntary wage increases in the face of a tightening labor market.

A number of retailers, including Gap, Ikea, McDonald's,

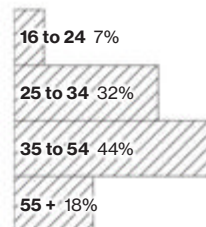
Who Gets a Raise

Percentage of workers affected by changes to overtime regulations

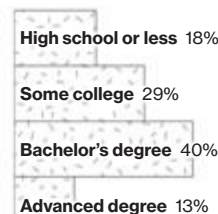
By industry



By age



By educational attainment



DATA: WHITE HOUSE

Target, and Wal-Mart Stores have announced raises for their lowest-paid workers. "Even the less skilled segments of the population are seeing wage gains," says Roberto Perli, a former Federal Reserve economist who's a partner at Cornerstone Macro, a Washington investment advisory firm. "It's another sign that slack in the labor market is diminishing."

Obama's move to expand overtime drew scorn from trade groups, who said the regulations would unfairly burden small businesses. Neil Trautwein, a vice president of the National Retail Federation, says the trade association will "leave no stone unturned" fighting the rule change, including court challenges and congressional action. Yet it isn't clear whether Republicans are interested in going all out to stop the rule when they also hope to fight environmental regulations and other

changes the administration has put forward. "There are numerous provisions and competing priorities," says John Scofield, a former Republican staffer on the House Appropriations Committee, which writes federal spending bills. "It's too early to tell what will make it to the finish line." —Mike Dornig and Steve Matthews

The bottom line The White House is expanding overtime as a tightening labor market is prompting companies to increase wages.

Agriculture

The Great Plains' Looming Water Crisis

▶ Depletion of a giant aquifer threatens vital U.S. farmland

▶ "We're all drinking from the same bowl of water here"

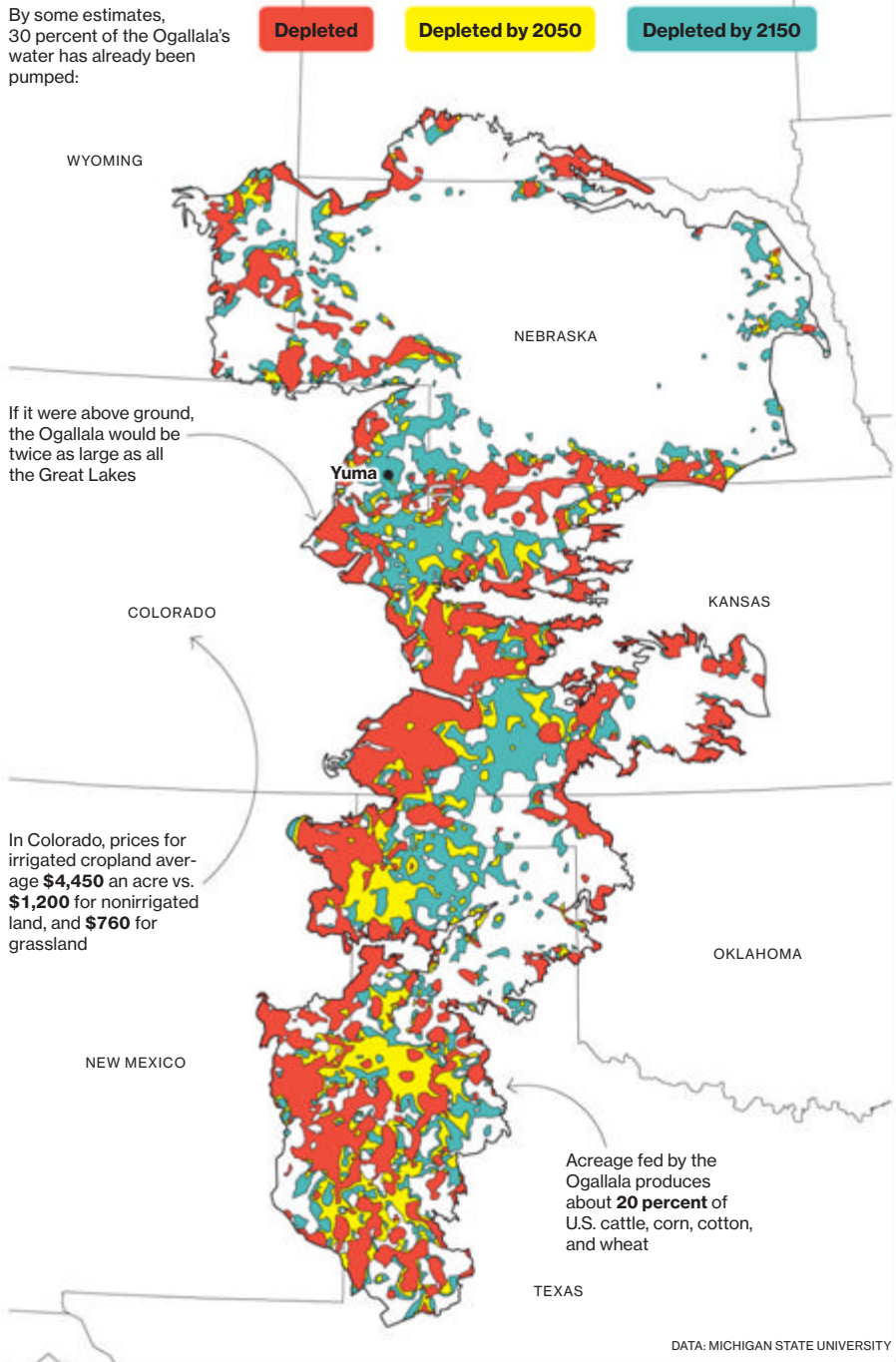
Farming in the northeast corner of Colorado used to be simple: plant corn and watch it grow, irrigated by the massive Ogallala aquifer. Today the sprinklers at Marvin Pletcher's farm in Yuma County, about 120 miles from Denver, put out half as much water as a decade ago, and he keeps them low to the ground to prevent evaporation. Half of Pletcher's 1,300 acres are

\$179

Amount the average homeowner in Inkster, Mich., will be assessed on their July property tax bills to cover the city's \$1.4 million settlement with Floyd Dent, a black man who was beaten by police during a January traffic stop

Ogallala Aquifer

By some estimates, 30 percent of the Ogallala's water has already been pumped:



planted with wheat, sorghum, sunflowers, and pinto beans—crops that are less thirsty than corn, but also less profitable. “I have four wells in operation. In 10 years I’ll be lucky if I have one,” says the fourth-generation farmer. “We’re all drinking from the same bowl of water here, and when it’s gone, it’s gone.”

The Ogallala aquifer lies under eight states from South Dakota to Texas. If it were above ground, its 174,000-square-mile surface area would be nearly double all five Great Lakes. About one-fifth of all U.S. cattle, corn, cotton, and wheat depend on the Ogallala. Without it, meat prices would rise, farm exports fall, and rural communities wither, says Bill Lapp, a former chief economist for ConAgra Foods and the Omaha-based president of Advanced Economic Solutions, an agriculture consultant.

About 30 percent of the aquifer’s water has already been pumped out of the ground. An additional 39 percent is expected to be gone in the next 50 years. Replenishing it would take millennia. That’s forcing quiet shifts in the region’s agriculture, with farmers in dried-out areas facing restrictions on bank loans and pressure to switch crops.

As a child, Rick Seedorf drank from irrigation pipes that flooded fields with seemingly endless water. The 63-year-old farmer raises irrigated corn and sugar beets and nonirrigated wheat outside the town of Yuma, the county seat. Plentiful supplies of water led to overdevelopment, he says. “If we had given more thought to where the soil was best or the supply was greatest, we might be able to get more out of the land,” Seedorf says. “It would have been great if that had happened, but how do you fix that now?”

The availability of irrigation dramatically affects land values, causing credit to dry up along with the water, says Doug Keil, chief credit officer for **Premier Farm Credit** in Sterling, Colo. Irrigated cropland averages \$4,450 an acre in Colorado, vs. \$1,200 for nonirrigated land and \$760 for grassland to graze cattle, according to data from the U.S. Department of Agriculture. “Someone will ask for a 20-year loan, and the appraiser will ask for a well test that makes it a 10-year loan because the water isn’t thick enough,” says Keil.

Based on current national prices and yields, an acre of corn brings a farmer \$583.80 on average, while an acre of wheat is worth \$216.58. Wheat is cheaper to grow than corn, so farmers

can get by on lower revenue. But everyone in the supply chain, from the seed dealer to the machinery seller, also ends up with less income, says Greg Page, executive chairman of **Cargill**, the world’s largest agribusiness. Businesses from biofuel producers to rail lines all need to prepare for lower volumes, he says: “Crop densities go down and you end up with too many grain elevators, too many rail tracks.”

Some parts of the Ogallala are doing better than others. Northern regions, including Nebraska, where water may be deep enough to last hundreds of years, are less stressed than the southern High Plains, which a 2012 U.S. Geological Survey study estimated will lose irrigation capacity on 35 percent of the land in the next three decades.

Unlike California, where the acute water crisis is forcing overdue action, ►

◀ there has been little coordinated response across the Great Plains. In western Kansas, farmers have set up voluntary districts to reduce water use by 20 percent, part of a statewide 50-year conservation strategy. In Texas, voters in 2013 committed \$2 billion for a new fund that will invest in projects that boost storage capacity.

Local initiatives can help slow the depletion, but what's ultimately needed is a multistate response, says Sasha Richey, a hydrologist at Washington State University in Pullman. "The good news is we can increase the sustainability of the system" with water-saving technology and wiser resource management, she says. "You need to jointly decide the goals, then come up with local strategies."

Some farmers will be "mining the vein until it runs out," says Seedorf, who is among those anticipating a return to a more parched era. Pletcher, whose ancestors settled in the area a century ago, calls wheat and sunflowers "grandfather crops" because they were common in the region before the 1940s, when full-scale pumping began. "The thing is, we've built some pretty nice schools and some pretty nice hospitals, and we have a nice tax base all based on irrigated ground," says Pletcher, who is on a local water board. "The light switch has been on for a while now, and when it gets switched to dark, people have to be ready." —Alan Bjerga, with Randall Hackley

The bottom line A fifth of corn, cotton, and wheat come from lands fed by the Ogallala aquifer, parts of which will be depleted by 2045.

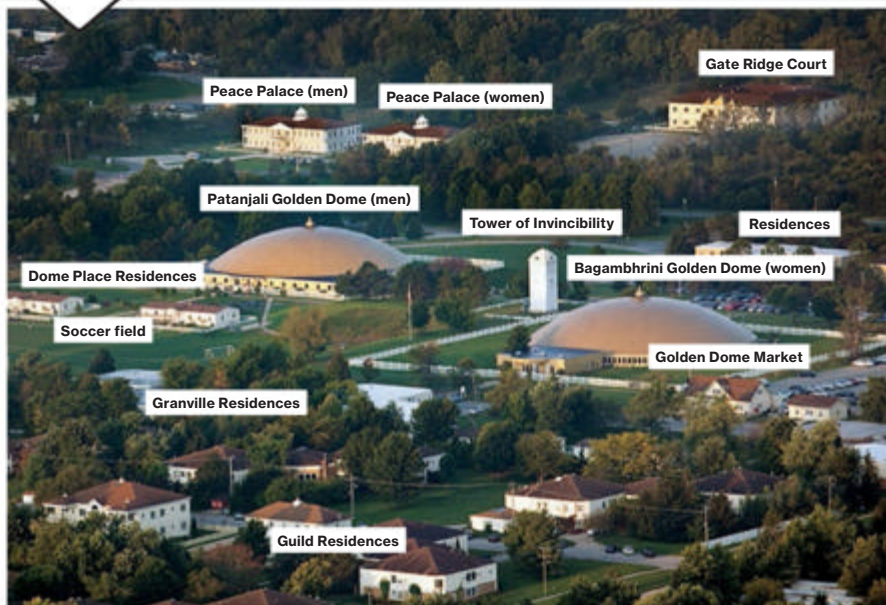
Campaign 2016

Rand Paul Finds Fans On a Higher Plane

- ▶ The candidate has a ready-made base at Iowa's Maharishi University
- ▶ "These are people who want to perfect their health and their world"

At Earth & Water, a teahouse in downtown Fairfield, Iowa, patrons sit cross-legged on mats as they down cups of oolong or puerh. Shoes are optional, if not discouraged. On a typical afternoon, it's crowded with students from the Maharishi University of

Maharishi University Campus



Management, which opened in 1974 to teach a curriculum inspired by the Maharishi Mahesh Yogi, the progenitor of Transcendental Meditation.

Fairfield, the center of Transcendental Meditation in the U.S., is a hotbed of support for Kentucky Republican Senator Rand Paul. Earth & Water regulars Jeff Shipley and Roger Leahy helped turn it and surrounding Jefferson County into a stronghold for Paul's father, Ron, the Texas congressman who came in a close third in the 2012 Iowa caucuses. Now they're using Earth & Water as a base to help Rand get all the way to the White House. "There's a self-reliant attitude here," says Shipley. "The people who want to end the wars and end NSA spying are the same people who want to be able to sell raw milk."

In 2011, Ron Paul fans made converts and won volunteers among Fairfield's devotees by canvassing the city's monthly art festival and its health food stores. "I've been supporting the peace movement since Nixon bombed Haiphong harbor," says Leahy, who moved to Fairfield in 1974 to be close to other practitioners. "When we organized in 2012, downtown, the office had a silhouette of Ron Paul that said underneath it: I'm voting for peace. Ron Paul's attitude was that many of the problems we're getting into around the world could stop if we practiced peace."

About 500 people turned out to hear Ron speak in Fairfield's classically designed town square, says Shipley. Jefferson County gave Paul a margin of 252 votes in the 2012 caucuses, one of the biggest proportional margins

for any candidate in any county. Months later, in the local party conventions that picked delegates, Paul's supporters routed their GOP rivals. In August 2012, Leahy went to the Republican convention in Tampa with Iowa's delegation to cast a vote against Mitt Romney's nomination.

Followers of the maharishi, who died in 2008, frequently see themselves on a journey to fix the world—not through conquest but through expanding minds. Every afternoon, at least 1,700 meditators gather in the Bagambhrini and Patanjali Golden Domes on the Maharishi University campus, not far from the Tower of Invincibility. The number is important: 1,700 is 1 percent of the U.S. population divided by its square root. According to the maharishi's teaching, that's the minimum needed to generate the Maharishi Effect—a decrease in crime and violence caused by the positive vibes generated by the meditators. "These are people who want to perfect their health and their world," Leahy says. "There's a lot of consciousness toward perfecting the environment."

Maharishi University professor John Hagelin took that philosophy into two presidential campaigns for the now-defunct Natural Law Party, in 1992 and 1996. He runs the David Lynch Foundation, headquartered on the campus and named for the filmmaker, an avid devotee of transcendental meditation. In his campaigns, Hagelin attempted to yoke TM to a libertarian-flavored political agenda. In the more enlightened world envisioned by his

60 lbs.
combined shipping
weight of all the
candidates' books

Campaign 2016

Beach Reading

15,118
total pages



There are six months until the first presidential primary, plenty of time to read all the books the candidates have published.

Donald Trump

15 books

Time to Get Tough, 2011
Midas Touch, 2011
Think Like a Champion, 2010
Never Give Up, 2008
Think BIG and Kick Ass in Business and Life, 2007
Trump 101: The Way to Success, 2006
The Best Real Estate Advice I Ever Received, 2006
Why We Want You to Be Rich, 2006
The Best Golf Advice I Ever Received, 2005
Think Like a Billionaire, 2004
How to Get Rich, 2004
The Way to the Top, 2004
The America We Deserve, 2000
The Art of the Comeback, 1997
The Art of the Deal, 1987
(Trump is also listed as author of a book series Trump University has published with John Wiley & Sons)

4,029
pages

Mike Huckabee

12

God, Guns, Grits, and Gravy, 2015
Dear Chandler, Dear Scarlett, 2012
A Simple Government, 2011
Can't Wait Till Christmas, 2010
A Simple Christmas, 2009
Do the Right Thing, 2009
Character Makes a Difference, 2007
From Hope to Higher Ground, 2006
Quit Digging Your Grave With a Knife and Fork, 2005
Living Beyond Your Lifetime, 2000
Kids Who Kill, 1998
Character IS the Issue, 1997

Ben Carson

9

My Life, not yet released
You Have a Brain, 2015
One Vote, 2014
One Nation, 2014
America the Beautiful, 2012
Take the Risk, 2007
The Big Picture, 1999
Think Big, 1992
Gifted Hands, 1990

Hillary Clinton

6

Hard Choices, 2014
Living History, 2003
An Invitation to the White House, 2000
Dear Socks, Dear Buddy, 1998
The Unique Voice of Hillary Rodham Clinton, 1997
It Takes a Village, 1996

Rand Paul

3

Taking a Stand, 2015
Government Bullies, 2012
The Tea Party Goes to Washington, 2011

7,000
copies sold since
May 1 release

Jeb Bush

2

Immigration Wars, 2013
Profiles in Character, 1995

\$200
price for a signed
secondhand copy
on Amazon

Rick Perry

2

Fed Up!, 2010
On My Honor, 2008

Marco Rubio

2

American Dreams, 2015
An American Son, 2012

Bernie Sanders

2

The Speech, 2011
Outsider in the House, 1997

Ted Cruz

1

A Time for Truth, 2015

Carly Fiorina

1

Rising to the Challenge, 2015

George Pataki

1

Pataki: An Autobiography, 1998

Scott Walker

1

Unintimidated, 2013

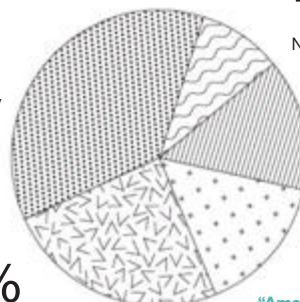
Chris Christie

0

Christie announced his candidacy June 30 at Livingston High, his alma mater. A New Jersey law barring governors from earning outside income means he can't accept a book deal.

Christie's
speech

35%
Autobiography



11%
New Jersey

14%
What he'll do

15%
America has
problems

"Americans are filled
with anxiety"

24%
Philosophy of government

3,736
Words

38
Bursts of applause

6
Laughs

1
Boo

party, drugs would have been legalized, and the tax rate would have been flattened to 18 percent. Crime, guns, family breakdown—these problems, Hagelin claimed in the Natural Law Party platform, were supposed to be solved after “stress is neutralized and the whole population spontaneously becomes more in harmony with both natural law and national law.”

With the Republican field more fragmented than ever, Iowa presents Paul with a chance to notch a win by mobilizing anti-establishment voters while his rivals divvy up the Republican base. It's not clear that everyone who went for Ron Paul will automatically Stand With Rand. “He's got some new position every week,” says Francis Thicke, an organic dairy farmer in Fairfield who usually votes for Democrats. “He needs to get his stories straight.” Thicke says what drew him to the elder Paul was a sense that he would fight for what he believed. “Ron Paul was the only one running for president not saying that Muslims hate us because of our freedoms,” he says. “He was saying they hate us because we're killing them. That seems obvious, but no one else was saying it. I caucused for him because I thought he was going to put some pressure on his right-wing buddies.”

Rand says he's ready to win Fairfield over. “There's a strong liberty movement there,” he says. “From what I understand, there's a strong aversion to war.” In May he addressed voters from the same town square that his father had. He denounced Obama-era military interventions and spent a long while talking about the paranoia that grew out of the war on terror. He invoked the story of Richard Jewell, the hero of the 1996 Atlanta bomb plot who became, unjustly, a suspect. Americans “are so afraid of terrorists that they're ready to ship their neighbor to Guantanamo Bay,” he said. A Paul administration, he promised, would defuse that fear. “We've got to believe in justice,” Paul said. The crowd cheered. “I'm hoping we can lead the way again,” says Leahy. “I'm hoping we can get 75 percent of the vote for Rand Paul this time.” —David Weigel

The bottom line Rand Paul is counting on the devotees of the maharishi, who pushed Ron Paul to third place in Iowa in 2012.

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ENLIVEN

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ENHANCES

ANSWER



[/bloombergcareers](https://www.bloomberg.com/careers)

July 6 — July 12, 2015



There Are No Liquid Lunches in the Cloud

► Software sales pitches are becoming a lot less about golf and a lot more about products

► The ideal sales rep “has shifted from aggressive and persistent to technical and smart”

Until a few years ago, Evan Blake made about \$300,000 a year selling corporate software with a formula straight out of *Mad Men*. Working for companies such as **Cisco Systems** and **BMC Software**, he'd use connections and charm to land a few meetings a year with buyers from big clients, then spend weeks working up a pitch for each, promising software so customized that both parties knew it probably couldn't be built. “Six to

12 months after doing the deal, you'd go on the apology tour,” Blake says.

Since then, the rise of cloud software has made the Don Draper routine as passé as the two-martini lunch. Most software buyers do their research online, and many compare free trial downloads of software products before they pick a winner. Cloud computing heavyweights such as **Amazon.com** have made it easy for customers to buy

software made by companies from project-management software maker **Atlassian** to HR portal **Zenefits** with a few clicks of a mouse, and without having to get lunch with a local field rep, haggle over prices, or spend years waiting for promised code. Hundreds of thousands of cushy field sales jobs will likely disappear in the coming years, says Andy Hoar, an analyst at Forrester Research. ►

◀ The rare salespeople who are meeting or beating their quotas—while colleagues leave the industry to sell cars or insurance—are those who can combine data-driven product expertise with the backslapping style of the past, Hoar says. Blake is among the relatively few reps who are prospering as never before. He says he earned more than \$700,000 in 2014, topping his previous best year by 40 percent, working in Seattle for **AppDynamics**, a developer of app-monitoring software. **Oracle**, **SAP**, and other software makers are boosting incentives for reps who've made this transition as they get serious about chasing cloud business.

At the same time, younger cloud companies that need to maintain their sales growth are looking for reps who can not only learn how the technology works but also have experience landing multi-million-dollar contracts. "All of the software companies are reevaluating their sales models," Hoar says. While older businesses are looking hard at retraining and different incentive structures, the upstarts have begun to learn "people want to shake someone's hand if they're going to spend \$5 million on something."

The new model means harder work, say veteran salespeople: fewer golf outings and trade shows, more nights at home scouring LinkedIn or writing detailed consultant-style reports on how a product can cut costs or boost revenue.

Big companies are experimenting with ways to adjust, says Tiffani Bova, an analyst at researcher Gartner. SAP eliminated layers of sales management last year and is selling some of its cloud offerings without visiting clients' offices, she says. Oracle has cranked up commissions on cloud deals and trained field

reps in selling with the help of social networks. **IBM** has created a team of consultants to move existing clients to the cloud, instead of relying on salespeople to cannibalize their own commissions.

It's tough to find someone with experience selling both large and small packages of software, because the industry has historically separated sales by deal size. Junior staffers known as inside sales reps would dial up small customers from headquarters, while the more highly paid field reps would shower attention and volume discounts on bigger buyers, often knowing little about the actual products. "You could set up a lunch and say, 'Meet my software engineer and enjoy the demo,'" says Jay Larson, a longtime software sales manager who's now chief executive officer of cloud company **Birst**. "Those people are being washed out of the business."

In the cloud, where customers can bolt almost as easily as they sign on, sales reps need to know their products cold so they can answer the most arcane questions, says Brian Halligan, CEO of **HubSpot**. "The job is no longer to sell as much software as possible. It's to help the customer get as much out of the software as possible," says Halligan, whose company offers marketing and sales software. "The personality profile of the technology salesperson has shifted from aggressive and persistent to technical and smart."

That's shaking up the pecking order in the industry's sales departments, as inside sales shifts from a starter job to a cushy gig where you can make hundreds of thousands of dollars a year by selling to customers who don't need or want a personal visit. Erica Watson, an

"People want to shake someone's hand if they're going to spend \$5 million on something."
—Andy Hoar, Forrester Research

inside rep at **Demandforce**, Intuit's marketing-software subsidiary, says she earned more than \$150,000 last year wearing jeans and making it home for dinner every night. "I haven't seen many outside sales positions that

are worth looking at," she says.

Conversely, times are tougher for the nontechnical field reps who used to coast on product lines that customers couldn't easily ditch, such as Oracle's databases or **Microsoft** Office, according to Daniel Johnson, chief technology officer at Guardian Life Insurance. "Too many salesmen were savvy about the terms of their contract than in helping us get value from the software," Johnson says. Cloud companies, he says, sell products that don't require a three-day training course: "It just works."

Now Johnson makes tech salespeople prove their products work on real Guardian projects before he buys. He fights packages that bundle software his employees won't use, as well as the pricey service contracts that are often a cost of doing business with big IT companies. Oracle got 57 percent of its \$38.3 billion in sales revenue from service contracts last year; AppDynamics got 5 percent of about \$150 million in orders from such contracts.

So for a rep such as Blake, the new mantra is "land and expand," also known as word-of-mouth. He hunts for \$50,000 deals he would have sniffed at a few years back and makes sure that whenever the software saves a customer's app from going down, or gets it back online faster, the company's other departments or peers hear about it. Frequently, he says, those events turn into \$250,000 deals within a few months.

As cloud companies prove their worth, deals are getting bigger, Blake says. Last year, he landed a seven-figure contract with the Xbox Live division at Microsoft; it ballooned into a much larger deal a few months later, making Blake's year and helping AppDynamics beat a companywide sales goal, more than doubling 2013's numbers. "He knows his product well and understands how customers use it in large-scale cloud environments," says Ben Schultz, one of the Microsoft buyers. "I have a packed schedule, and lots of time can be lost to sales-related conversations. I haven't experienced that with Evan."

Some startups, including **Slack**, the office-chat company valued at

\$470m

Uber's operating loss, on \$415 million in revenue, according to a bond term sheet for investors reviewed by Bloomberg. "These are substantially old numbers that do not reflect business activities today," says spokeswoman Nairi Hourdajian.

Hourdajian declined to say why the numbers are being used to promote the current \$1 billion financing

Digits



The offices of Gaza Sky Geeks, a Google-backed startup accelerator in Gaza City

\$2.8 billion, are trying to get by without any conventional field reps. Slack serves thousands of companies with just 18 “account” reps (don’t call them salespeople) working out of its San Francisco headquarters. They get bonuses based on customer satisfaction ratings but earn no commission, meaning they don’t have an incentive to sell extras that customers don’t need, says Chief Marketing Officer Bill Macaitas. “It’s just a better way to do this,” he says.

As startups begin looking for bigger clients and broader markets, they tend to want a little more of the old school along with the landing and expanding. Cloud companies, including **Box**, **Marketo**, **New Relic**, and cloud poster child **Salesforce.com**, have hired sales executives from Oracle and SAP. At AppDynamics, President Joe Sexton recently added a bonus of up to \$2,500 for reps who pitch companywide contracts to five chief information officers in a quarter. “If you get four, you get nothing,” says Sexton, who used to run sales for security software maker **McAfee**.

That leaves some hope for the software industry’s Willy Lomans out working their territories. Even **InsideSales.com**, which sells artificial-intelligence-driven phone-dialing software, has hired its first 20 field reps this past year. “It would be awesome if we didn’t need any of them,” says CEO Dave Elkington, because the road warriors

typically cost 50 percent more to employ than staffers who make calls from the office. “But these field guys really know how to ask for really big deals and make people who are spending a lot of money feel comfortable.” —*Peter Burrows*

The bottom line The cloud has made software sales a grind for \$50,000 starter deals instead of an elephant hunt for seven-figure ones.

Startups

A Tech Ecosystem Built on Rubble

► A Google-backed accelerator is helping entrepreneurs in Gaza

► “We started working harder” to catch up after last year’s fighting

Less than 50 miles from the thriving tech hub of Tel Aviv, startup founders are having a tougher time. In the Gaza Strip, decades of conflict and grinding poverty make reliable electricity and office space tough to come by. Nonetheless, where there are computers and smartphones, there are young

people with ideas for apps, says **Iliana Montauk**, and those she’s met in Gaza over the past two years compare favorably with people at Harvard and in Silicon Valley.

Montauk is the head of **Gaza Sky Geeks**, a startup accelerator in Gaza City. Backed by **Google** and operated by the U.S. charity Mercy Corps, GSG seeks to develop business ideas and connect entrepreneurs with investors. Montauk, a former Google staffer and a native of Berkeley, Calif., is convinced Gaza’s young coders can create tech success stories in the territory run by Hamas. Four GSG companies have secured outside investment from Arab-focused venture funds, and she aims to help another four do so this year.

While Israel’s eight-year blockade of Gaza limits imports of concrete, chemicals, and other materials that could potentially be used for fighting, computers and smartphones are widely available. In June, during a five-day “boot camp” at GSG’s offices by the harbor, about 40 aspiring entrepreneurs showed

off their ideas. Men in jeans and T-shirts and women in headscarves and long skirts perched on multi-colored couches with laptops and smartphones, chatting in English



Concrete and chemicals are scarce in Gaza, but laptops are common

◀ with volunteer advisers from the U.S., Dubai, and Britain.

Ted McCarthy, a visiting adviser from tech consultant **ThoughtWorks** in San Francisco, was “actually amazed,” he says. “A good number of the startup ideas seemed like legitimate beginnings to serious businesses.” Mohammed Ezzdeen, 27, founded **Baskalet**, a mobile-gaming company that just released its first title, an Arabic-language driving game. After last summer’s Israel-Hamas war, he says, “we started working harder” to catch up.

GSG was founded in 2011 primarily to educate young people about technology. Under Montauk, who graduated from Harvard in 2006, its focus has shifted to producing viable companies. She moved on to Google and consultant Monitor Group, then a Fulbright fellowship in Jordan, before Mercy Corps hired her to run GSG in 2013. Although Google provided \$900,000 for initial costs, Mercy Corps and GSG have turned to crowdfunding to cover rent, salaries, and Internet access. An online campaign that ended in January raised about \$250,000 from more than 800 people.

Creating a successful tech ecosystem in Gaza isn’t out of the question, particularly with products aimed at the Arab world’s rising middle class, says Shikhar Ghosh, who teaches entrepreneurship at Harvard Business School. On a visit last year to the West Bank, “the companies I saw that were really intriguing were those looking into the Middle East and North Africa instead of looking westward,” he says. And costs and valuations are far lower than in established tech hubs, so “it’s a pretty easy bet to make.”

A top priority for GSG startups is coming up with a plan to keep operations running elsewhere if war flares up again. Complicating such efforts, the Gaza airport has been shuttered for more than a decade, and locals need permission from Israel or Egypt to leave. Montauk says she’s betting on the resilience and enthusiasm of the young people she’s met at GSG. She was out of the country during last summer’s fighting, which killed more than 2,000 Gazans, and was worried about what she’d find when she returned. “There were 60 people there waiting,” she says. “All they wanted to talk about was their startups.” —*Matthew Campbell and Saud Abu Ramadan*

The bottom line A Google-funded accelerator in Gaza is connecting Palestinian tech entrepreneurs with outside financing.

something the carmaker would rather you forget.

Ford Motor has a mixed record in cockpit technology. It’s been one of the most innovative car companies, introducing more features across more models than any competitor, but the downside has been overreach. “Ford’s been first and they’ve been bold,” says Jake Fisher, director of automotive testing at *Consumer Reports*, but that means the company’s dashboard systems became too complicated. “It’s been risky, and at times it’s hurt them.”

MyFord Touch was one of those times. Introduced in 2010, its touch-screen interface was supposed to leapfrog the competition, but most drivers found it confusing. Early on, the system crashed a lot. The company fell 18 places to No. 23 in J.D. Power and Associates’ 2011 Initial Quality Study, and MyFord Touch was highlighted as the reason why.

MyFord Touch was powered by a **Microsoft** operating system, but Ford is now using an OS from **BlackBerry** subsidiary QNX that already runs in-dash systems in Audis, BMWs, and Mercedes-Benzes, among others. In 2005, the system’s early days, a partnership with Microsoft was “completely obvious,” says Gary Jablonski, Ford’s manager of infotainment systems. “We wanted a big software company, lots of horsepower, connected to the consumer industry, connected to the phone industry.” The BlackBerry software, he says, will be more resistant to crashes of the PC variety. It turns out the kinds of bugs people will tolerate from their phones drive them crazy on the road.

Sync 3 aims to wipe the touch-screen clean with a far easier interface. “We really focused on trying to make a system that was the simplest to use for customers,” Jablonski says. That goal may sound obvious, but John Schneider, the project’s chief engineer, acknowledges that to justify the added cost, “We tried to pack a lot of features into MyFord Touch.”

Where the previous system was comprehensive to the point of being enervating, Sync 3 is “Fisher-Price-easy to use,” as Jablonski puts it. The screen may not be gorgeous, but it has large buttons and a clear structure so drivers can easily switch from selecting music to entering a destination. Ford has also put traditional volume knobs and temperature buttons back on the dash.

Autos

Ford’s New Dashboard Software, by BlackBerry

▶ The company ditches Microsoft and slims down its interface

▶ “Sophistication is not a substitute for solid design principles”

When new Fords start arriving in dealerships this summer, many models will feature the carmaker’s latest in-dash interface, called Sync 3. It’s not named after its predecessor MyFord Touch, because that software is

The Sync 3

The OS, from BlackBerry-owned QNX, also runs in Audis, BMWs, and Mercedes-Benzes

Ford’s putting volume and temperature knobs and dials back on the dash

The screen’s large icons let drivers switch easily from maps to music



“Sophistication is not a substitute for solid design principles,” says Don Butler, Ford’s executive director for connected vehicles and services.

Sync 3 is entering a considerably more crowded marketplace than MyFord Touch did. **Apple’s** CarPlay and **Google’s** Android Auto seek to put the smartphone at the center of the in-car interface, making dashboard screens look pretty much like iOS or Android. Ford says it’ll eventually support both CarPlay and Android Auto, allowing drivers to ditch Sync 3 and send Apple or Google their valuable location data.

To help keep Sync 3 updated, Ford is putting together AppLink, which other developers can incorporate into their software to make it Sync-compatible. The company is trying to make sure any app on any smartphone can run on Sync 3, too, taking pressure off Ford to keep pace with trendy tech. “AppLink lets customers get features they didn’t have when they bought the vehicle,” says Julius Marchwili, who heads the software’s development. **Toyota Motor** said in June that it plans to use Ford’s open source version of AppLink in its cars.

That partnership sets up a bit of a showdown between major carmakers and Silicon Valley. Ford’s argument is that it has more access to vehicle data than Apple or Google and a deeper understanding of how a driver interacts with her car. If that sounds familiar, it’s because Apple has for years explained its value as a function of unified hardware and software design. Ford’s engineers are betting that this philosophy will be a good defense against the very company that made it popular. (And against Google, too.)

“The user experience and interaction with the interfaces and the controls within the vehicle, it’s not something that we at Ford feel like we can abdicate,” Butler says. Others aren’t so sure. Fisher, the *Consumer Reports* analyst, says it’s a matter of time before Apple and Google control your dashboard, because they’re much quicker to adapt. “If carmakers started this five years ago,” he says, “you’d have hard-keyed buttons for Myspace and Friendster.” —*Sam Grobart*

The bottom line Ford has stripped down its cumbersome dashboard interface with an eye on competing systems from Apple and Google.

Innovation

Egg Toxin Tests

Form and function

Vitargent’s fish embryos contain DNA that’s up to 89 percent identical to that of humans. They’re a cheaper, faster gauge for toxicity than chemical or animal tests—and they’re arguably more ethical. (The embryos aren’t, legally speaking, animals.)

Innovators Eric Chen and Xueping Chen (no relation)

Ages 27 and 36

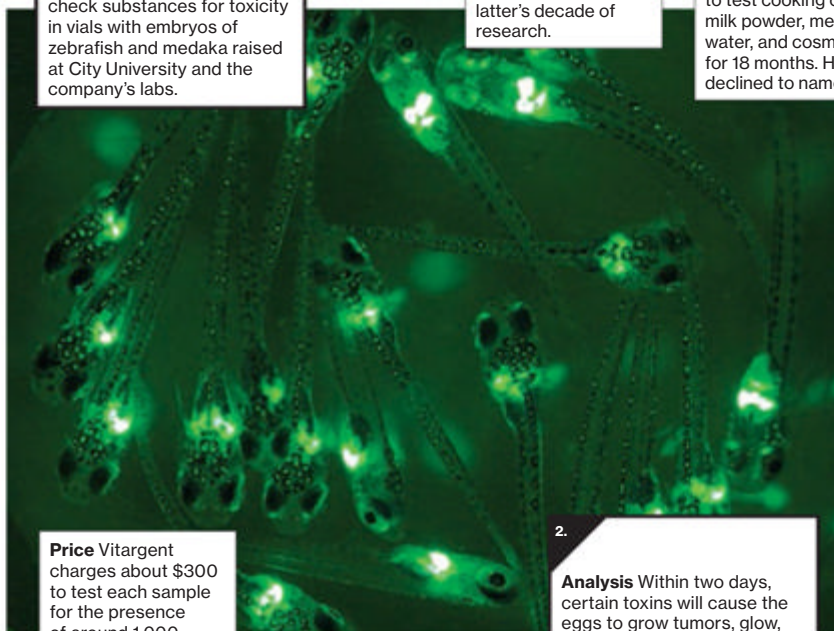
Co-founders of Vitargent, a five-year-old biotech startup in Hong Kong



Testing Vitargent scientists check substances for toxicity in vials with embryos of zebrafish and medaka raised at City University and the company’s labs.

Background In 2010, Eric Chen graduated from City University of Hong Kong with a bachelor’s degree in engineering and marketing. Convinced food safety was China’s most pressing problem, he teamed with biologist Xueping Chen to commercialize the latter’s decade of research.

Users Eric Chen says Vitargent has signed up a handful of paying companies to test cooking oil, milk powder, meat, water, and cosmetics for 18 months. He declined to name any.



Price Vitargent charges about \$300 to test each sample for the presence of around 1,000 chemicals. The company says that’s 10 percent more expensive than older tests that screen for only 5 to 10 toxins.

Funding In January, Vitargent announced it had raised an undisclosed amount from San Francisco venture fund WI Harper.

Analysis Within two days, certain toxins will cause the eggs to grow tumors, glow, or otherwise mutate. The mutations help Vitargent identify categories of toxins, including pesticides, heavy metals, and hormones.

Next Steps

Vitargent’s embryos aren’t considered medical equipment, so its tests don’t have to clear regulatory hurdles. Brian Priestly, a professor of epidemiology and preventive medicine at Monash University in Melbourne, says fish embryo tests are more humane and far cheaper than tests on rats, dogs, and monkeys, which can cost \$1 million an animal. But it’s less clear, he says, how closely human tolerances correspond to those of the eggs. —*Natasha Khan*

July 6 — July 12, 2015

The Bond Market Survives

▶ Traders shrug off Greece and Puerto Rico, but the real test lies ahead

▶ It “wasn’t as violent or panicky” as some feared

After spending much of the final weekend in June poring over worrisome news from Greece, money manager Raman Srivastava set his alarm for 2 a.m. on Monday and quickly left for the office. Srivastava, head of global fixed income at **Standish Mellon Asset Management** in Boston, downed four cups of coffee and ate doughnut holes at his desk as he waited for London’s stock and bond markets to open at 3 a.m. Already, the euro was falling, and Asian stock markets had plunged. Investors were reacting to Prime Minister Alexis Tsipras’s surprise decision to hold a referendum on austerity measures Greece would need to adopt to get a financial life-line. While it’s true that investors have been pondering the consequences of a Greek meltdown for the better part of four years, says Srivastava, “you never know how things are going to play out.”

For months, concern had been spreading on Wall Street and in Washington that the bond market might not be able to handle a massive selloff—that if too many investors decided to sell at the same time, there wouldn’t be enough buyers, and bond prices would plunge, or the markets would freeze, as they did during the 2008 credit crunch.

On Monday, June 29, it seemed as if that moment might be at hand. Not only was Greece on the verge of default, Puerto Rico warned on Sunday that it couldn’t pay its \$72 billion in debt.

The market wobbled a bit that morning. Greek bond prices plummeted, and investors flocked to U.S. Treasuries, a favorite haven in times of crisis. At the end of the day, though, the market passed its stress test. There was no mass selling. The \$15.7 billion of dollar-denominated corporate bonds that exchanged hands was the lowest in more than a month, according to the Trade Reporting and Compliance Engine, the Financial Industry Regulatory Authority’s bond-price reporting system. “It was business as usual and wasn’t as violent or panicky” as some feared, says Henry Peabody, a bond manager at **Eaton Vance**.

Any sense of relief was temporary. “I wouldn’t look at yesterday as any indication that markets are perfectly situated to absorb risk,” Jim Caron, a money manager at **Morgan Stanley Investment Management**, said on the Tuesday after the eventful weekend. As he and other traders and investors see it, the real test will come when the Federal Reserve starts

raising interest rates for the first time in almost a decade, eroding the value of existing bonds.

With the Fed expected to act later this year or early in 2016, Finra has begun meeting with some of the market’s biggest participants to discuss how they can make sure that, when sentiment sours, there’s enough “liquidity”—or trading activity in the market—to make it easy to buy and sell bonds without knocking prices down sharply. The U.S. Securities and Exchange Commission is drafting rules for mutual funds to ensure they have plans in place to meet investor demands for cash.

Bond traders are already focusing on liquidity. Spain, for instance, must pay more than Italy to borrow money for 30 years, even though Spain is considered safer by credit raters. Why? The Italian bond market is twice as big as the Spanish one, and therefore more liquid. The same thing is happening in other places around the world. Bonds

“I wouldn’t look at yesterday as any indication that markets are perfectly situated to absorb risk”



Americans can't quit
stocks 36

Chinese fraud victims
rack up frequent-flyer
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How yttrium and
cerium crashed
Molycorp 36

Bid/Ask: At GE, it's sell,
sell, sell; Ace fattens up
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Aberdeen Asset Management has arranged about \$500 million in credit lines to fund redemptions in the event of a bond market selloff, according to Chief Executive Officer Martin Gilbert. "It will get ugly" if either Greece exits the euro or the Fed starts raising interest rates, he says. Since the start of 2013, **BlackRock**, the world's largest money manager, has more than quadrupled the amount its mutual funds can collectively borrow to meet withdrawals.

Along with arranging credit lines, fixed-income managers have been loading up on cash and securities they can sell easily, such as Treasuries and bank bonds—which are by far the most heavily traded securities in the U.S. corporate debt market. "No matter what I think of Treasuries, I have one big reason to own Treasuries: They're liquid," says Pascal Blanqué, global chief investment officer at money manager **Amundi**. So in a market panic, Treasuries, the safest securities, could also be the ones money managers dump if investors want their money back. "If you see yields going higher and that triggers redemptions in fixed-income funds, what do you sell to raise cash?" asks Michael Lorizio, a senior bond trader at **Manulife Asset Management**. "You sell what you can sell, Treasuries." —*Nabila Ahmed, with Cordell Eddings and Lucy Meakin*

The bottom line Regulators and money managers are trying to ensure the bond market functions when the Fed starts raising rates.

Investing China's \$8 Trillion Roller Coaster Ride

► Its stock market is the world's most volatile outside Greece

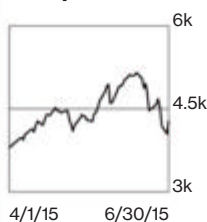
► "You'd think you wouldn't see this... in such a large equity benchmark"

Its price chart looks like one for an over-the-counter penny stock: dizzying gains, abrupt U-turns, harrowing declines. Yet this isn't an obscure security from the fringes of Wall Street. It's China's Shanghai Composite Index,

the yardstick for an \$8.1 trillion equity market—the world's largest after the U.S.—where extreme volatility is becoming the norm.

Juiced by record amounts of borrowed money and the whims of more than 90 million individual investors, the Shanghai Composite has been more volatile than every other global index except Greece's ASE. On June 30, the Shanghai Composite swung from

Shanghai Composite Index



a low of 3,850 to a high of 4,279—the largest one-day move since 1992—before closing at 4,277, for a gain of 5.5 percent. The average gap between daily highs and lows in June has been 4.4 percent, more

than five times that of the Standard & Poor's 500-stock index.

"You'd think you wouldn't see this volatility in such a large equity benchmark," says Ankur Patel, the chief investment officer at R-Squared Macro Management in Birmingham, Ala. "The flows in and out have been so substantial, and it's been driven by retail investors. Those are the same characteristics you see in penny stocks."

The Shanghai Composite surged more than 150 percent in the 12 months leading to its June 12 peak as authorities cut trading fees, made it cheaper to open stock accounts, increased the amount of stock overseas money managers are allowed to own, and eased rules on margin lending. They also lowered interest rates three times and reduced lenders' reserve requirements twice. From June 12 through June 29, the market fell more than 20 percent, a common yardstick for a bear market. China's central bank on June 27 had cut interest rates for a fourth time, in what some traders saw as an attempt to keep stocks from crossing the bear market threshold. As of the end of June, the index still was ahead 32 percent for the year. And despite recent price declines, the median stock on mainland exchanges trades at 82 times earnings, more than when the Shanghai Composite peaked in October 2007.

The manic ups and downs test

in smaller, less-active markets such as Finland, Singapore, and Canada are starting to fall out of favor. "Liquidity is our No. 1 criteria in country selection," says Olivier de Larouzière, the head of European interest rates at **Natixis Asset Management** in Paris.

Liquidity is a worry in bigger markets, too. The U.S. corporate bond market has ballooned by \$3.7 trillion during the past decade, with almost all of that growth concentrated in the hands of mutual funds, foreign investors, and insurance companies, according to **Citigroup**. Globally, the 20 biggest money managers hold 40 percent of all bonds, Bank for International Settlements (BIS) data show. At the same time, Wall Street banks, which traditionally acted as middlemen and helped cushion large moves in the market by buying bonds when a lot of investors wanted to sell, have retreated from that role because of post-crisis regulations aimed at making the banks less risky.

The concentration in the bond market could be a problem because it means fewer big participants are available to sustain trading in tough times. "The growing size of the asset management industry may have increased the risk of liquidity illusion," BIS economists wrote in a June report. "Market liquidity seems to be ample in normal times but vanishes quickly during market stress."

◀ the resolve of China's amateur investors, who piled into shares at a record pace as the market soared earlier this year. Liu Chang says his colleagues in the tobacco industry near Shanghai are vacillating between liquidating their positions and betting on a rally. Wang Yan, who works for a publisher in China's eastern Zhejiang province, says her friends are too terrified to check the balances in their online trading accounts. "I started stock trading two months ago," she says. "Back then I thought I must be stupid not investing in stocks as making money out of it was so easy. Now I think I'm even more stupid as the money I lost almost equals my one-year salary."

"Given that it's a very retail-driven market, it's always going to be more sentiment-driven. That works both ways, both on the upside and lately on the downside." The message is that authorities are trying to discourage speculative bets on the highest-flying stocks and steer money toward state-run companies, according to Nelson Yan, chief investment officer at the Hong Kong unit of Changjiang Securities.

Chinese stocks will continue their wild swings, says Henry Guo, an analyst at Summit Research Partners in San Francisco. Some investors believe the market is overpriced, while others bet that the government will do what's necessary to boost prices. "I expect this back-and-forth to continue," Guo says. —*Belinda Cao and Kana Nishizawa*

The bottom line Chinese stocks swung an average of 4.4 percent daily in June, more than four times as much as the S&P 500.

"Given that it's a very retail-driven market, it's always going to be more sentiment-driven. That works both ways, both on the upside and lately on the downside."

market" was "taking a break." Future gains would be "slow" and fueled by government efforts to reform state-owned companies, the paper said, echoing an earlier article in *Securities Times*, another state-run publication.

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—*Belinda Cao and Kana Nishizawa*

The bottom line Chinese stocks swung an average of 4.4 percent daily in June, more than four times as much as the S&P 500.

Commodities

It Turns Out Rare Earths Aren't That Rare

▶ A bet on the metals flopped when their scarcity was short-lived

▶ "In hindsight it was an absolute commodity bubble"

Two questions were on the minds of many commodities investors in late 2010: What are rare earths? And where can I buy some? The 17 obscure minerals—with names such as praseodymium and yttrium—are used in

fast-selling items such as smartphones, electric cars, and wind turbines, and they were beginning to post the kind of price gains not usually seen even in the volatile metals markets. For many investors, the only way to get in on the action was to buy shares of a Colorado-based rare-earths producer called **Molycorp**. Its market value had shot up to \$4 billion after an initial public offering earlier that year.

In late June, Molycorp filed for bankruptcy protection, having run out of cash after a sharp and sustained slide in rare-earth prices. The company has become a cautionary tale for investors looking for the next hot thing, a lesson in how excessively high commodity prices can quickly reverse. "In hindsight it was an absolute commodity bubble," says Jon Hykawy, an analyst at Stormcrow Capital in Toronto.

Until the 1990s, the U.S. was the dominant producer of rare earths, and China mined almost none. That changed as the largest U.S. mine shut and Chinese producers took advantage of cheap labor and more relaxed environmental regulations. By the early 2000s, China supplied 97 percent of the global market, according to the Council on Foreign Relations.

Rare earths would soon assume geopolitical significance. The minerals are used in smart bombs, Tomahawk cruise missiles, and F-35 fighter jets. The U.S. Department of Defense and other government agencies began studying the security of the rare-earth supply, concluding that the country was reliant on Chinese supplies. In July 2010, just months after their report was published, the fears began to be realized when China cut export quotas by 72 percent to ensure domestic supply.

Prices soared through much of 2011 as industrial users stockpiled the metals.

Used to make flatscreen TVs and low-energy lightbulbs

Portfolios America's Growing Stockpile

In a year when investors have pulled about

\$60b

from stock funds, the value of all U.S. shares has increased by \$115 billion. Stocks now represent 41 percent of Americans' financial assets, matching the high of 2007 and trailing only the 54 percent reached during the Internet bubble. —*Lu Wang and Jennifer Kaplan*

Percentage of Americans' financial assets in stocks

36%

29%

Money flows into and out of equity mutual funds and ETFs

\$20t

The value of stocks held by U.S. households

41%

\$60b

\$30b

\$0

-\$30b

-\$60b

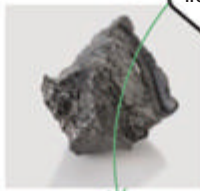
2015 Q2

DATA: BLOOMBERG, DCI, NED DAVIS



Cerium

-89%



Neodymium

-81%



Lanthanum

-86%



Dysprosium

-86%

Price
change
from 2011
highUsed in magnets
for electronics and
wind turbinesUsed in
batteries for
hybrid cars

DATA: BLOOMBERG, AS OF JUNE 30

Lanthanum, used in hybrid-car batteries, and neodymium, for powerful magnets, both jumped fivefold in price during 2011. Cerium, for glass polishing, soared sixfold. In the U.S., Molycorp became a stock market star. The company trumpeted the reopening of its Mountain Pass mine in California that year as the only North American source of rare earths, breaking the grip of Chinese buyers. Its stock, priced at \$14 for its July 2010 IPO, touched \$79.16 in May 2011.

Late that year, the rare-earth boom ended almost as quickly as it began. More supply was coming on the market, not just from California but also from Australia and Malaysia, according to Kevin Starke, an analyst at CRT Capital Group. "The industry shot itself in the foot with so much new supply," he says.

Prices also came under pressure as corporate buyers devised workarounds. The glass polishers started recycling cerium, Hykawy says. **Toyota Motor** went one step further, developing motors for hybrid and electric vehicles that don't need rare earths at all. Oil producers found ways to lower the rare-earth content in their refinery catalysts. "There's a maximum price that you pay," Hykawy says. "I'm sick to the stomach of the argument that rare earths are irreplaceable."

Even with prices sliding, Molycorp doubled down on the industry by buying Neo Material Technologies, a Canadian metals processor, for \$1.2 billion in 2012. In November of that year, Molycorp said the U.S. Securities and Exchange Commission was investigating the accuracy of its public disclosures. It issued more stock and bonds to help fund the development of Mountain Pass. By January 2015, the company was talking to debt-restructuring advisers.

Despite Molycorp's plight, rare-earth demand continues to grow. China remains the dominant global supplier, with a share of at least 70 percent, according to the Council on Foreign

Relations. Analysts say if the industry doesn't smooth out supplies to lessen price volatility, users could be scared away. "There needs to be a stable source of rare-earths supply outside of China," says Melissa Tan, an analyst at RW Pressprich in New York. "Large buyers, the Japanese companies and others, they want to diversify their exposure." — *Tim Loh, Tatiana Darie, and Simon Casey*

The bottom line Rare-earth prices jumped as much as sixfold in 2011 and crashed soon after, bringing down miner Molycorp.



Crime

Fraud Victims Take to The Streets—and Skies



► Chinese investors travel abroad looking for their cash

► "What we want is simple: Return the money to us"

Seven Chinese investors who say they are among the victims of an investment scam flew to Singapore in mid-June to chase down leads. After filing complaints with the police, they conducted a six-day, round-the-clock stakeout of a home where they believed someone involved in the scheme was hiding. "We kept knocking on his door for hours," says Zhao Guangcai, a Beijing businessman who organized the trip. In March, he'd led a similar expedition to Geneva, Bern, and Zurich in a failed attempt to track

down the missing cash and the people who took it. "What we want is simple," says Zhao. "Return the money to us."

Zhao and his companions say they are among 29,000 people in China and Hong Kong who lost \$1.2 billion investing with a company called API Premiere Swiss Trust that said it traded currencies. In Beijing, API investors have held four protests, including one outside the Embassy of Switzerland, urging the Swiss government to work with China on the investigation. In May, they demonstrated outside the government petition office in Dongcheng District, urging Chinese police to set up a unit to investigate the fraud. Investors in Hong Kong gathered outside a police station in Kowloon demanding stepped-up efforts.

Authorities in China, Hong Kong, Geneva, and Singapore say they are investigating the case, and an investor has filed a lawsuit in Hong Kong. But there have been no indictments, no one has been arrested, and the money hasn't been found.

Over the past two years, API's representatives made pitches to wealthy investors in Hong Kong and China, hosted events for them in Singapore—offering free flights and lodging at five-star hotels—and gave incentives for them to draw in their friends, according to interviews with victims, lawsuits they filed, and documents they shared. Many say investors were lured by pitches that arrived mostly via the instant-messaging service WeChat. The come-ons promised Swiss accounts and returns of 10 percent a month from currency trading by API Premiere Swiss Trust in Geneva and associated companies in Hong Kong.

Investors say API representatives told them to deposit money in bank accounts in Hong Kong or China, from which the money would be sent to Switzerland. A lawsuit against a company called API Premiere Ltd. filed in Hong Kong's High Court by investor Sun Zhiming says a representative of API approached him on an instant-messaging service. Sun then invested HK\$147 million (\$19 million) for gold and foreign-currency trading, which disappeared, according to the suit.

After the money in their online API accounts vanished in January, investors received a message from the company saying it had been hacked, asking for patience and time for API to restore

Bid/Ask

By Kate Rooney



\$6.9b

General Electric continues its makeover, selling the bulk of its vehicle fleet-management business to Canada's Element Financial, a leasing company. It also sold its European buyout-lending unit to Japan's Sumitomo Mitsui Banking for \$2.2 billion and signed a letter of agreement to sell its European fleet-management business. About \$200 billion in assets are on the block as GE refocuses on manufacturing.

\$28.3b



Ace swallows Chubb. Evan Greenberg's company is buying the insurer of high-end homes and mega-yachts as it continues its acquisition spree.

\$8.7b

Willis Group merges with Towers Watson. The insurance broker will add consulting operations to help it take on larger U.S. competitors.

\$2.6b

Cenovus Energy sells oil rights. The Ontario Teachers' Pension Plan is buying properties from Canada's fourth-largest oil producer.

\$1.9b



Cinven takes a majority stake in Synlab. The private equity firm continues to expand in Europe following its purchase of France's Labco in May.

\$1.7b

Wendel secures AlliedBarton. The French investment firm is acquiring one of the largest security-guard providers in the U.S. from Blackstone.

\$1.3b

Amphenol wires a rival. The maker of electrical connectors and cable is buying FCI Asia from private equity firm Bain Capital.

\$4.6m



A notorious Virgin Mary painting sets a record. The depiction of a black Madonna that incorporates elephant dung set an auction high for artist Chris Ofili.

balances and compensate customers. After that, they were unable to contact company representatives, they say.

Geneva's public prosecutor's office says it's investigating API and an associated company, Alpen Asset Management Trust. Both were described as "heavily indebted" by Switzerland's Financial Market Supervisory Authority (Finma), which initiated bankruptcy proceedings against them in May. In January, Finma had issued a public warning that API and Alpen were wrongly claiming to be licensed and supervised by Finma. The warning came about 10 days after the investors said they discovered their accounts had been emptied. "Both companies used their Swiss image to attract new clients, although they were mainly managed from abroad," says Vinzenz Mathys, a spokesman for Finma.

Hong Kong police are investigating 136 complaints of suspected fraud from investors who said they'd invested a total of HK\$415 million with API, according to a police spokeswoman. Representatives of API and Alpen couldn't be contacted. Offices formerly used by API in Geneva were vacated months ago, and a Hong Kong office was also abandoned, with a writ for unpaid rent left stuck to the doors.

API's website, recently taken down, cited a history in Switzerland stretching back 59 years, services including algorithmic trading and wealth management, and offices in Geneva, Zurich, and Hong Kong, with Shanghai "coming soon." A promotional video showed yachts on Lake Geneva, traders at computer screens, and a Chinese man identifying himself as the vice president of greater China for API climbing into the passenger seat of a Ferrari so that the "boss," whose face isn't visible, can show him around.

Chinese investors say they thought the company's claim it was regulated in Switzerland made it secure. "Switzerland is famous for its financial-services industry," says Han Mingyun, a 65-year-old widow in Wuhan who says she was lured by the promise of a Swiss investment and saw \$45,000 in savings disappear. "They are supposed to be the best and safe." —Giles Broom, Alfred Liu, and Chanyaporn Chanjaroen

The bottom line A sketchy Swiss company allegedly made off with \$1.2 billion from 29,000 Chinese investors.



Lynette Yiadom-Boakye: *Verses After Dusk*



Serpentine Pavilion 2015 designed by selgascano



The Magazine restaurant



Duane Hanson

SERPENTINE GALLERIES SUMMER SEASON 2 JUNE – 13 SEPTEMBER 2015

Serpentine Gallery

Lynette Yiadom-Boakye: *Verses After Dusk*

Serpentine Pavilion 2015: 25 June - 18 October

Serpentine Sackler Gallery

Duane Hanson

The Magazine restaurant

serpentinegalleries.org

SERP  **ENTINE**
GALLERIES


Cyberattacks: Preventing the “Inevitable”

Defeating today’s advanced cyber threats requires a multilayered approach that’s committed to winning—not expecting to fail

Massive Data Breach Affects Millions. This type of headline is becoming far too familiar. In fact, seeing some variation of it just about every week is causing many companies to adopt defeatist outlooks toward data security: Hackers can’t be stopped. It’s only a matter of time before we’re hit. Our data will be stolen.

“Trust is under assault,” says Davis Hake, Director of Cybersecurity Strategy for Palo Alto Networks, a leading next-generation security firm based in Santa Clara, Calif. “When you see these headlines, they can make you believe that cybersecurity is an unsolvable problem, and that all you





Preoccupied by potential breaches?

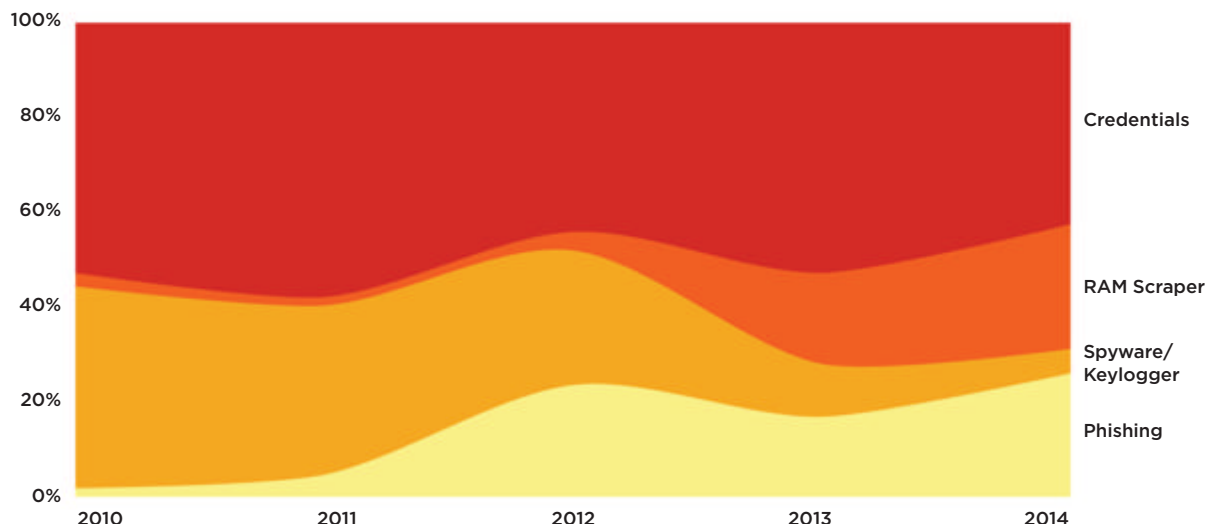
That's where AT&T can help. Our highly secure global network actively monitors and protects against threats in near real time – helping mitigate risks before you have to worry about them. Leaving you free to focus on what matters most.

AT&T Business Solutions
att.com/security

MOBILIZING
YOUR
WORLD™



Significant threat actions over time by percent



S3

should really do is prepare for the worst, but we disagree with that assessment.”

This zeitgeist of futility is, interestingly, somewhat similar to the fear of an impending nuclear attack during the Sputnik years of the Cold War, Hake points out. “In the 1950s, many Americans lost trust that their community was safe, so they started building bomb shelters and preparing for the end of life as we know it,” he says. The threat facing them felt incalculably large and beyond their ability to influence, so bracing for the worst seemed like the most reasonable response.

Rather than remaining resigned to “duck and cover” strategies, Americans soon turned their attention to efforts that changed the threat calculus, such as the space program. While the specter of nuclear war never disappeared, more Americans began to view it as an alterable risk, rather than an imminent inevitability.

“Right now, in cybersecurity, we’re sort of in a ‘Sputnik time,’ where these large threats are looming and we don’t really know what to do with them,” says Hake. “A lot of these attacks and breaches come from incredibly sophisticated actors, and they target the highest levels of corporations, organizations and industries. It seems as though there’s nothing that can be done to stop them—but we can. Prevention is a reality that can be achieved today. We want to help create a different mindset—one that ensures that the trust that has been built among businesses and consumers online will be maintained.”

Adopting a prevention philosophy requires taking a holistic approach to limit all cyber threats throughout a company’s ecosystem.

There really isn’t any other option. The digital interconnectivity that drives modern business is built on trust; and customers using a merchant’s website trust the network and assume their credit card information is safe from cyberattack.

Adopting a prevention philosophy requires taking a holistic approach to limit all cyber threats throughout a company’s ecosystem. To achieve this, true next-generation security is required because older security methods that rely on an endless series of “bolted on” solutions—mostly used merely to detect malicious activity at a single point, rather than instantly prevent it across the entire computing environment—guarantee failure.

“Modern cybercriminals know to look for gaps in single-point solutions, and how to take advantage of those gaps,” Hake explains. “A prevention mindset isn’t achievable when you’re using traditional strategies or older, legacy security products.” The only way to defend an organization against today’s advanced threats is by automating breach prevention across the entire enterprise.

This automated approach to prevention becomes especially important as organizations scale their security solutions to meet the increasing demands of the distributed enterprise and growing mobile workforce. Your organization may transmit sensitive data over millions of smartphones, or interact with hundreds of cloud-based environments every hour. Older security technologies solely built for networks generally have countless gaps in their mobile and cloud defenses that can be readily exploited by hackers. Palo Alto Networks offers an advanced, next-generation security platform, designed from the ground up to protect an organization’s entire data environment at scale from threats originating at any point.

“We combine protection at the perimeter and the endpoint with a Threat Intelligence Cloud that covers everything in between,” says Hake. “When our Next-Generation Security Platform senses suspicious activity, it is built to block these threats and feed information back into our Threat Intelligence Cloud, so the activity

WE DID IT. A LEADER AGAIN.

Gartner, Inc. released the latest Magic Quadrant for Enterprise Network Firewalls, and for the fourth year, we've been positioned in the "Leaders" quadrant.

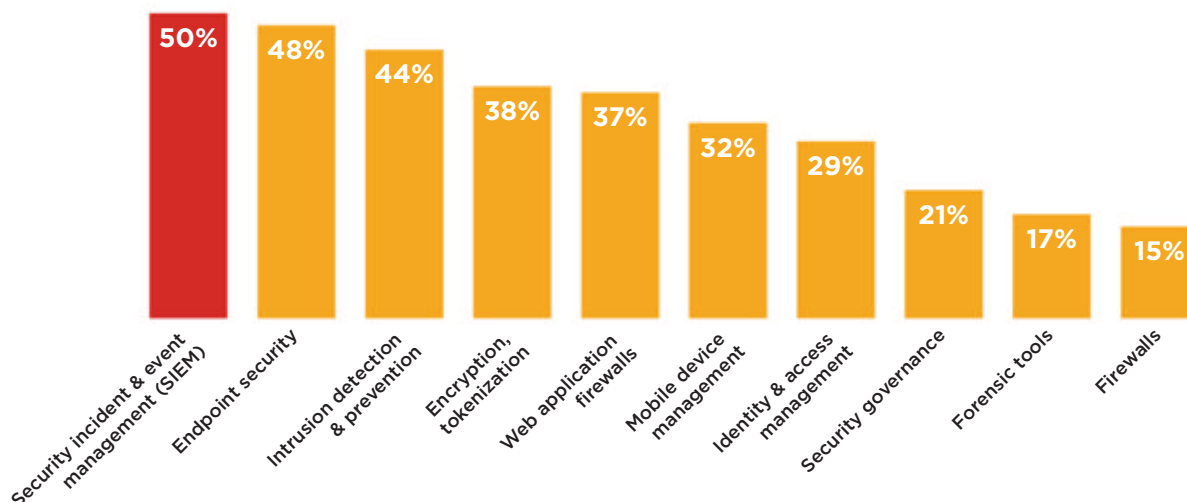
See for yourself and learn how Palo Alto Networks is pioneering advances in the market at go.paloaltonetworks.com/bloomberg.



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Gartner, Magic Quadrant for Enterprise Network Firewalls, Adam Hills, Greg Young, Jeremy D'Hoinne, 22 April 2015.

Technology investments made in response to mega breaches



S5

can be correlated against the information in thousands of other client systems. Then that intelligence is pushed back down to your environment to increase your protection. This builds a more secure, trustworthy cyber ecosystem for our entire community.”

The Enemy Within

While companies have invested heavily in stopping outside cybercriminals from penetrating their networks, highly sophisticated attacks can, in fact, get past the perimeter through compromised devices, and also originate from within the network itself through “trusted” employees and other parties.

“The average company is attacked 17,000 times a year, and the 2015 Verizon Data Breach Investigations Report shows that up to 71 percent of cyberattacks are now coming from within an organization,” says Drew Del Matto, CFO at Fortinet Inc., a global leader in cybersecurity headquartered in Sunnyvale, Calif. “These attackers may be coming in through your corporate LAN, and once they’re in, they have full access to anything that’s in the house, including all of your HR info, sensitive financial performance information, sales intelligence and other treasure targets that can devastate your business or brand if stolen.”

Companies are hamstrung in protecting their network from internal attacks due to a technological disparity in network architecture: The speed of data transmission in internal networks is typically about 10 times faster than it is in an external network. “Most firewalls and security solutions just can’t handle that speed,” says Del Matto.

The speed within corporate firewalls allows companies to perform business functions as easily and quickly as possible—a necessity that has been the chief goal of an organization’s IT efforts from day one. This often means that internal security measures have imparted costly speed bumps to that efficiency. “Most IT functions are business-focused, and when you’re thinking about the flow of business, security architectures very often create friction,” says Del Matto. “Many security products absorb bandwidth and consume

processing power, which fetters the business by reducing network speeds, application performance and transactional or data velocity.”

The motivation to avoid this situation has created profound asymmetries in security between external and internal networks—and cybercriminals are benefiting from these internal weaknesses.

“Because highly sophisticated hackers will find ways past your perimeter defenses, and many attacks will be initiated inside your network border, you need an additional security layer inside your network,” says Del Matto. Fortinet’s high-speed FortiGate security appliances are deployed as internal network firewalls, which provide that critical layer of protection against malware, unwanted access and advanced threats—without compromising internal network speed or performance.

“Our internal network firewalls are both fast and secure, trapping threats at the source while still maintaining the capacity and bandwidth to drive your business,” Del Matto explains. In fact, Fortinet offers the only network security solution built for the high performance and speed required by internal networks, offering fully integrated security protocols that protect information both outside and inside an organization’s native architectures.

“Companies need to be the stewards of their customers’ assets and information,” he adds. “With research showing that 93 percent of U.S. businesses are vulnerable to internal threats, it’s obvious that perimeter defense is not enough. You need a multilayered security approach with strong internal defenses to be that trusted steward.”

It’s About People, Not Just Technology

With cybercrime robbing the world economy of about \$450 billion every year, and CEOs being fired in the wake of headline-grabbing attacks, data security is now a critical boardroom concern on equal standing with the most fundamental operational issues.

“Cyber threats have become a top-of-mind priority for CEOs and board members across our customer base,” says Jon Summers,

Senior Vice President of AT&T Growth Platforms, which includes AT&T's security and cloud units. "As businesses have made an aggressive shift to mobile and cloud, it has pushed the limits of the traditional perimeter cybersecurity model, and companies must quickly adapt to a more layered security model."

"There certainly is a technological element that businesses need to adapt to, but there is also a need to scale up experienced personnel inside the business," says Summers. Business leaders need to make decisions about who has access to mission-critical applications, and under what circumstances, he explains. Just as important, they need to create policy and training components governing how employees conduct their work in a cloud-based mobile environment, so that the security of the organization's cyber ecosystem isn't undermined.

"For many companies, this is a difficult proposition," adds Summers. "When they're trying to run their business and be experts at their core operations, scaling up in cybersecurity can seem a very complicated objective. Our view is that it's pretty difficult to go it alone, and companies need trusted partners to help them adapt to the changes and threats that are out there."

AT&T enables companies to support mobile workforces that seamlessly tap cloud capabilities with layered security at every junction. "Ultimately, to remain competitive, most organizations must move to the model of a secure mobile cloud," says Summers.

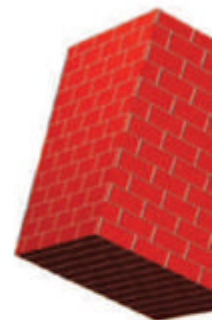
To achieve this, AT&T emphasizes four priorities in its cyber threat partnering solutions. The first is to ensure core network security, via a technology arsenal that includes advanced tools like

"With research showing that 93 percent of U.S. businesses are vulnerable to internal threats, it's obvious that perimeter defense is not enough."

virtual private network (VPN) technology and AT&T's NetBond hybrid cloud. The second focuses on maintaining robust endpoint and device security to data in devices and prevent them from serving as a platform to launch malicious activity. The third is protecting data and applications in cloud and data center environments. Finally, the fourth priority is collecting the data across the entire environment to provide actionable security insights in real time—another area in which AT&T customers enjoy industry-leading advantages.

"With a vast IP network that supports over 90 petabytes of traffic a day, and cloud partners like Microsoft, IBM and Amazon, AT&T is in a unique position to collect and analyze a significant amount of data to help customers identify threats," explains Summers.

Pooling intelligence, and never wavering in the promise to be vigilant stewards of online information entrusted to them, is the only way businesses can meet the threats of advanced cybercrime today. Failure—despite the claims of many tech pundits that it is inevitable—is not an option. — Ron Geraci



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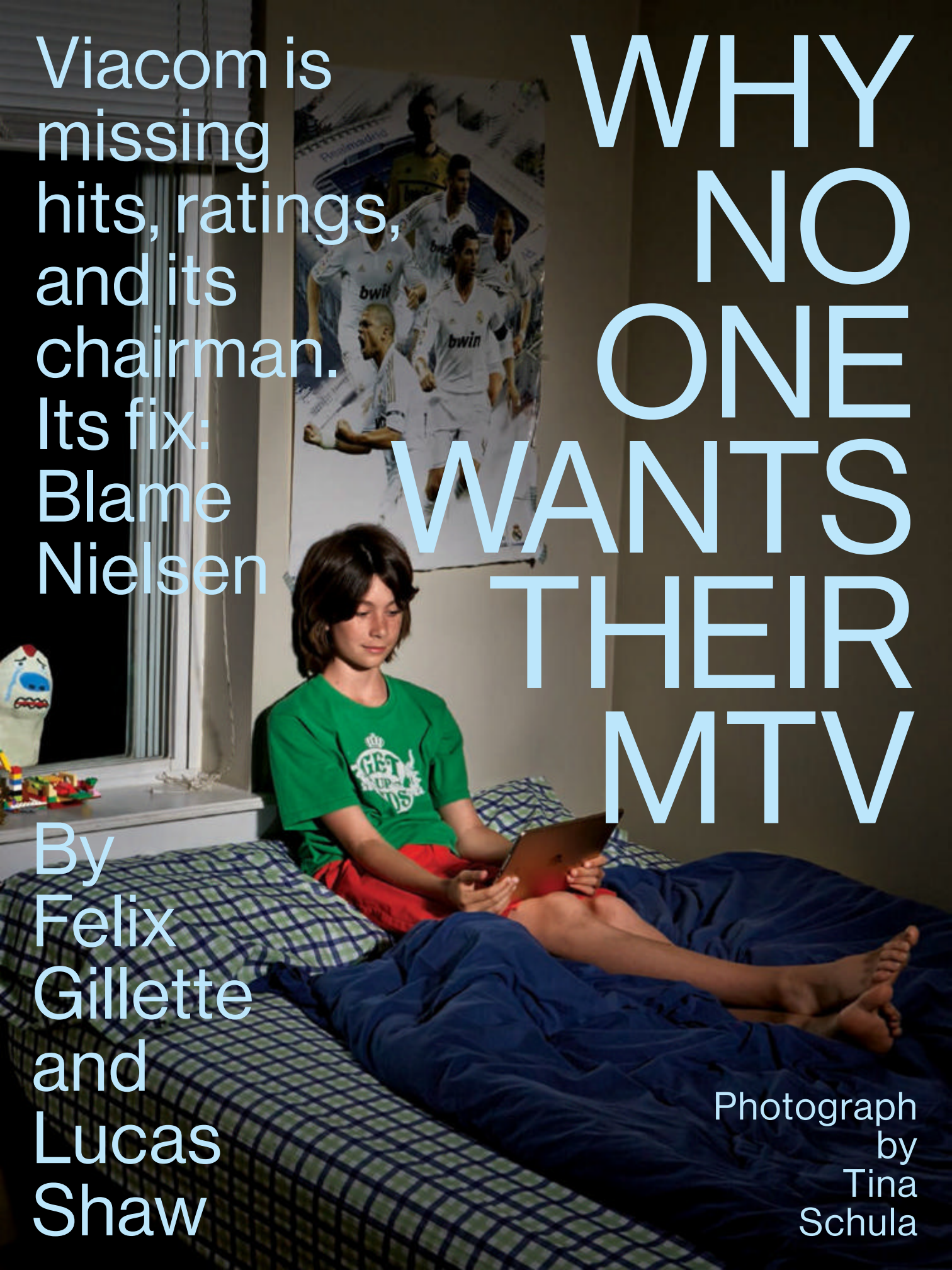


Viacom is
missing
hits, ratings,
and its
chairman.
Its fix:
Blame
Nielsen

WHY NO ONE WANTS THEIR MTV

By
Felix
Gillette
and
Lucas
Shaw

Photograph
by
Tina
Schula



A half-dozen security guards stand watch outside the Vibrato Grill Jazz, a supper club in Los Angeles, as a stream of black SUVs, Bentleys, and Teslas pull up to the valet parking stand. It's a clear May evening, and a handful of journalists and paparazzi loiter in the vicinity, hoping to witness an increasingly rare sight: Sumner Redstone in the wild. They watch as Hollywood dignitaries in formal attire arrive—producer Robert Evans, philanthropist Barbara Davis, former studio executive Sherry Lansing.

For the past year, Redstone, the chairman and controlling shareholder of two media conglomerates, Viacom and CBS, has largely retreated from view. The disappearance of Redstone, once a candid, quarrelsome, constant public figure, has fueled speculation about his health and what will become of his media empire. A week before the party, the *Hollywood Reporter* wrote that Redstone could likely be seen on that day venturing outside his Beverly Hills mansion near dusk to celebrate his 92nd birthday. Invitations, citing his “passion to party,” called for guests to arrive at 6 p.m.

At the designated hour, there's no sign of Redstone. His handlers have managed to slip him in through a back door, obscured from would-be peepers by a makeshift black curtain. Once again, there will be no opportunity for the press to assess Redstone in person.

The party is short-lived. By 7:30, guests emerge to retrieve their cars and assure the reporters outside that Redstone is well and the soiree terrific. Tony Bennett sang jazz standards. There was cake. “Everybody showed up,” says billionaire Ron Burkle. “Any time with Sumner is a highlight,” says Michael Milken, the former junk-bond king. “I’ve known him a long time. He looks great.”

Yet concerns about Redstone's health persist, because while he may show up for a party in his honor, he isn't defending Viacom as he always has. And while CBS is thriving, Viacom, which includes 23 major and minor cable-TV networks in the U.S. and Paramount Pictures studio, is in trouble.

This season, according to Nielsen, the TV industry's chief measurement agency, ratings have declined by double digits at Viacom's most popular cable networks, including Comedy Central, BET, VH1, Nickelodeon, Spike, and TV Land. At MTV, the company's flagship network, prime-time ratings are down 21.7 percent from last season and 25 percent in the 18- to 34-year-old demographic the network targets.

Viacom's poor ratings have managed to stand out, even as the collective pay-TV industry suffers an unprecedented ratings slump. In May, according to data compiled by MoffettNathanson Research, overall cable-TV ratings among 18- to 49-year-old prime-time viewers dropped 7 percent from last year. At Viacom, ratings fell 19 percent.

While Viacom is still profitable—last year it earned \$2.4 billion in net income on \$13.8 billion of revenue—the ratings collapse is alarming because the company is one of the least diversified of the U.S. media conglomerates. Its fortunes are heavily dependent on TV ratings, which help determine how much money it collects from advertisers and how much cable, satellite, and online distributors pay to carry Viacom programming.

In February the company's prospects worsened when Jon Stewart, the star of Comedy Central's *The Daily Show*, announced he would soon be leaving the network. Stephen Colbert has also jumped ship. Recently, a few cable operators have questioned whether they need to carry Viacom's channels at all. Since the beginning of 2014, Suddenlink Communications

and Cable One, two small operators, dropped the company's lineup entirely.

In early April, Viacom announced it would write off \$785 million in the second quarter, in part to cover the cost of older shows that are no longer as valuable. Across the company, large numbers of employees have been dismissed. During an April earnings call, Viacom said its domestic ad revenue had fallen 5 percent in the previous three months, the third straight quarterly decline.

In January, Todd Juenger, a Sanford C. Bernstein analyst, delivered a grim prognosis for Viacom. “Given our view that the audience abandonment of ad-supported TV is structural, and worst among kids and young-adult demographics, we believe the future is more likely negative than positive,” he wrote.

For years, even as the Internet razed much of the profits at newspapers, magazines, books, music labels, and movie studios, cable-TV networks kept making big money. More recently, as consumers shifted their viewing time from live television to various on-demand options, anxiety has risen. The standard subscription cable- or satellite-TV bundle—so lucrative for so long for TV programmers such as Viacom—is under duress because of the growing popularity of YouTube, Netflix, Hulu, and Amazon.com. At the same time, cable distributors, whose profits are becoming more dependent on selling speedy Internet access, are experimenting with cheaper, slimmed-down menus of programming that allow customers to purchase a few popular TV channels instead of paying for them all. As a result, poorly performing networks can't count on the package deal to bail them out.

Nowhere is the mounting pressure on pay-TV more evident than at Viacom, whose 23 networks include several such as CMT, Centric, MTVU, and Palladia that few people watch but many pay for as part of bundles.

Philippe Dauman, Viacom's chief executive officer and president, calls concerns about the company overblown: The problems, he argued recently, are the result of faulty measurement, not faulty programming decisions. In the mean-

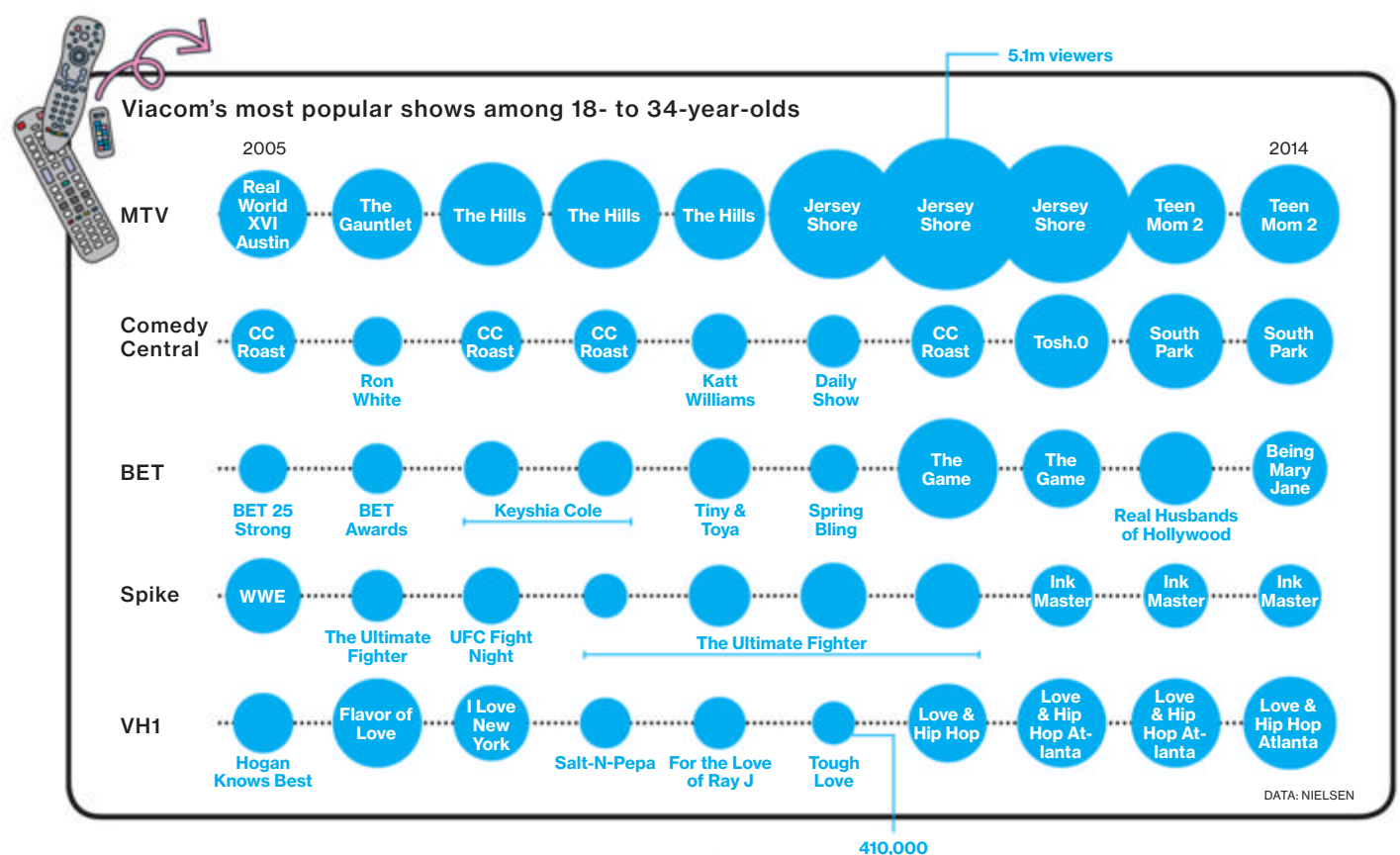
time, Redstone's 61-year-old daughter, Shari, is waiting in the wings, ready to lead a turnaround should the opportunity arise. “The threat to the core of Viacom is profound,” says Patrick Keane, a longtime media executive and current president of Sharethrough, an online advertising company. “The changes are hitting Viacom harder than virtually any traditional media company on the planet.”

Redstone grew up in Boston as a socially obtuse, high-achieving student. After graduating from Harvard Law School in 1947, he eventually joined and took over his family's movie theater business. Once in charge, he proved an adept manager, successfully expanding the company while navigating tricky changes in American movie culture, such as the shift from drive-in theaters to multiplexes, a term he coined. By the 1980s, convinced that content rather than distribution was the key to succeeding in the entertainment industry, Redstone segued from investing in large media companies to seizing control of them. He quickly earned a reputation as a negotiator who seemed to relish sparring with rivals, firing top managers, and starting feuds. Over a quarter century, he built a media superpower that on its best days rivaled Walt Disney.

In recent years, Redstone talked up his own vitality, regaling journalists with tales of swimming laps naked in the pool of his Los Angeles mansion and dishing on his romances with far younger women. He frequently retold the story about his brush with death when a fire broke out at Boston's Copley Plaza hotel



“The changes are hitting Viacom harder than virtually any traditional media company on the planet”



in 1979. He survived by crawling out a window of his hotel room, kneeling on a ledge, and hanging on, even as flames charred his arm, until a firetruck arrived with a ladder. The moral of the story: Redstone never lets go.

Over the past year, however, Redstone's imperious grip has slipped. He hasn't spoken on a Viacom earnings call since last fall. In March, for the first time in years, he didn't attend Viacom's annual shareholder meeting. In May, he missed the annual meeting of CBS shareholders. Lately, the best glimpses into his reclusive lifestyle have come via court filings.

In August 2013, Sydney Holland, Redstone's 44-year-old girlfriend, filed a civil suit against Heather Naylor, an affectionate mentee of Redstone's, whose all-girl rock band starred in a hapless MTV series, *The Electric Barbarellas*. Holland alleged that Naylor had conspired with others to steal her laptop. In a cross-complaint last year, Naylor alleged that Holland had changed Redstone's phone number and was attempting to "control Redstone for her own economic advantage." Both sides denied the allegations, and in April, Holland dropped the suit. The episode did nothing to alleviate the impression that Redstone's authority has slackened.

Redstone controls Viacom and CBS through National Amusements, a private company in which he holds an 80 percent stake. When he dies, the companies will be in the hands of a trust. CEO Dauman is one of the seven trustees. So is Shari, who in the past several years has backed through her investment firm, Advancit Capital, a portfolio of startup media companies—with mixed results.

For now the direction of Viacom is in the hands of Dauman, 61, who took over as CEO in 2006 after Redstone fired Tom Freston

for losing out to Rupert Murdoch in a competition to acquire Myspace and for failing to boost the company's stock price.

Dauman provided a sharp contrast to his predecessor. Freston was an avuncular executive and skillful salesman, steeped in every aspect of cable television since he co-founded MTV. He green-lighted *The Real World*, *Beavis and Butt-head*, *South Park*, *Behind The Music*, and *SpongeBob SquarePants*. Dauman, on the other hand, was a former corporate lawyer who'd spent the bulk of his career in Redstone's shadow, coolly servicing the magnate's feverish ambitions. Last year, even as Viacom faltered, Dauman was paid \$44.3 million. He declined to be interviewed for this article.

Dauman has taken an unusual tack when he's spoken to analysts about Viacom's recent performance. The lower ratings for its programming, he says, aren't the result of the rising popularity of YouTube or poor creative choices at Viacom. Instead, the loss of viewers is an illusion, he says. The fans are there in growing numbers. They just aren't being properly counted. According to Dauman, Nielsen's ratings fail to account for the TV that people consume via apps on their smartphones, streaming devices such as Roku, desktop websites, or various video-on-demand services. "Inadequate measurement undermines innovation," Dauman said during a recent earnings call, "and disproportionately impacts those leading programmers like us who effectively provide the multiplatform experiences that viewers demand."

It's an argument that exonerates Viacom's management for its ratings slide and absolves it from the need for reinvention. As Viacom continues to pay the ratings service for its data, knocking Nielsen is a low-risk strategy; Nielsen's unlikely to punch back at a major client. (A Nielsen spokesperson declined to comment for this article. CEO Mitch Barns recently told the *Wall Street Journal* that struggling TV companies are at times "using us as a scapegoat.") If, as Dauman says, nobody is correctly measuring the new TV landscape, then nobody can adequately judge Viacom's market share.

"When you're looking at Nielsen, you're only factoring in a small part of the way our audience is consuming our

Redstone has a fortune estimated at \$5.6 billion. As two of seven trustees, his daughter, Shari, and her son Tyler Korff will help determine the future of Viacom and CBS when Redstone dies.

In March, MTV.com attracted 18.4 million unique U.S. visitors, up 37 percent from two years earlier, according to ComScore; during that same time period, rival Vice.com grew from 4.2 million unique users to 20.1 million.



programming,” says Stephen Friedman, the president of MTV. “We’ve been really aggressive about being platform-agnostic in terms of where we put our content. It’s much more important to be where they are than to worry about an antiquated rating system.”

So far, investors on Wall Street aren’t convinced. Over the past year, Viacom’s stock has fallen 24 percent. “The Nielsen thing is a red herring,” says Porter Bibb, managing partner at Mediatech Capital Partners. “Management is the real problem.”

With Redstone missing in action and Dauman reluctant to do interviews, it’s fallen to lesser-known executives to support Dauman’s criticism of Nielsen—and to quantify Viacom’s potential. One of these designated visionaries is Kern Schireson, a verbose, 42-year-old marketing strategist who joined Viacom last year from his private consulting firm, Schireson Associates. Schireson is responsible for buttressing what Dauman calls Viacom’s “non-Nielsen monetization strategy” by better measuring and monetizing the company’s uncensored, unconventional viewers.

Schireson says that thanks to companies such as Rentrak and FourthWall Media, which collect and sell data gathered by cable, satellite, and Internet distributors, Viacom has access to richer information about its viewers than ever before. This wellspring of data, he says, reveals that Viacom’s shows are more popular than Nielsen ratings suggest. At the same time, the Rentrak and FourthWall data give Viacom the ability to more



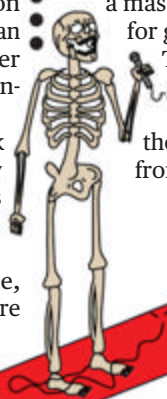
“No matter how well you match up advertising to programming, there are going to be more and more people trying to avoid it”

precisely match advertisers with viewers, which will make the company’s ad space more valuable, he argues. “This is a monetization problem,” Schireson says, summing up Viacom’s chief talking point for Wall Street. “This is not a content problem.”

The challenge of how to accurately measure TV’s rapidly fragmenting audience—and how ad buyers should be charged for unconventional ad placements—is affecting everyone in the industry, not only Viacom. Efforts to resolve it are under way. Nielsen is capturing many of the newfangled ways in which people consume TV on various digital devices as part of a more comprehensive measurement framework called Total Audience. Since the fall of 2014, Nielsen has been working to galvanize the industry behind an updated set of ratings rules. Negotiations between buyers

and sellers are expected to pick up in the months ahead. “It’s a massive year for us,” Nielsen’s executive vice president for global product leadership, Megan Clarken, said at a TV-measurement conference in Manhattan in April. “It’s a massive year for the industry.”

In the meantime, Viacom is trying to adjust to the splintering TV landscape. To prevent young viewers from turning away during ads, it rolled out an initiative



April’s MTV Movie Awards attracted about 1.55 million viewers, down from 6.6 million in 1999.



Comedy Central has 4.1 million YouTube subscribers, making it the 171st most popular channel, trailing College Humor, The Tonight Show Starring Jimmy Fallon, and Jimmy Kimmel Live.

last year called MTV Always On, which is staffed by a team of pop culture savants (including Richard Turley, former *Bloomberg Businessweek* creative director). Inspired by trending topics from the daily news cycle, the Always On crew whips up batches of short-form videos, GIFs, and memes, which are then hastily injected into MTV's advertising blocks, adding a jolt of immediacy. The blips of timely visual ephemera are designed to be so alluring that viewers can't help but keep their eyes fixed on the TV screen during commercial breaks rather than checking their smartphones—something Nielsen now attempts to measure. One year later, Viacom executives say the program has exceeded expectations. "It's how you reinvent live TV," Friedman says.

But despite how you tweak live TV, says Ian Schafer, founder and chairman of Deep Focus, a digital marketing agency, the chief problem is not going away: Younger viewers are increasingly seeking out video that isn't ad-supported. "Whether they are binge-watching on Netflix or skipping ads on YouTube, they are actively trying to get beyond the reach of advertising," Schafer says. "So no matter how well you match up advertising to programming, there are going to be more and more people trying to avoid it."

There's another theory: The shows are bad. Some former staffers say that several years of cost-cutting under Dauman have crippled Viacom's creative culture. "I'm tough on Viacom because I grew up there and have great affection," Jason Hirschhorn, the former chief digital officer of MTV Networks, wrote recently in his daily newsletter, MediaRedef. "It's unrecognizable to me now. Devoid of strategy, culture and risk taking. Keep burning the furniture for heat."

One of the company's top products this year has been Paramount Pictures' *The SpongeBob Movie: Sponge Out of Water*, which has racked up more than \$310 million in global box-office sales. The movie is based on the popular TV series that has aired on Nickelodeon since 1999. Likewise, many of Viacom's top entertainment franchises date back to an earlier era. MTV's last cultural juggernaut, *Jersey Shore*, premiered in 2009.

Bibb, of Mediatech Capital Partners, criticizes Dauman for failing to restock the company's arsenal. Rivals such as Disney have been aggressively acquiring cultural assets like Pixar, Marvel Entertainment, and Lucasfilm. And other media conglomerates, such as Time Warner and 21st Century Fox, have been hedging against the rise of Internet video-on-demand by investing heavily in TV programming that reliably attracts large live audiences—namely, sports. Bibb sees Dauman's idiosyncratic blame-the-scorekeepers strategy as little more than a tactic to distract attention from the stasis that's enveloped Viacom since Redstone's involvement has faded. "Dauman is protecting Sumner's estate, not building a business," Bibb says.

In recent years, according to David Miller, an analyst at Topeka Capital Markets, Viacom has been risk-averse, choosing to spend more than \$15 billion on stock buybacks since 2010 while shying away from making big bets on live-sports rights or bulking up Paramount Pictures' slim annual output of films. "Strategically, we think Viacom is somewhat in trouble, although it can be fixed with appointment programming, a la what AMC Networks has done or what HBO has done," Miller says. "Thus far, Viacom hasn't come up with anything compelling."

Doug Herzog, head of the Viacom Music and Entertainment Group, who first joined MTV in the 1980s, points to promising new shows such as Comedy Central's *Broad City* and Spike's *Lip Sync Battle* as evidence that the company can cultivate fresh talent. "That's what this company has always done," he says.

"Like anybody who has been around a long time, you're going to have your ups and your downs."

Many Viacom competitors are attempting to strengthen their connections with young viewers and capture more of the ad dollars flowing online by acquiring multichannel networks, or MCNs—Internet companies that have amassed huge, loyal followings on YouTube. Last year, Disney acquired Maker Studios, a fast-growing MCN. Recently, 21st Century Fox purchased the digital advertising technology firm TrueX and invested in online video companies such as Hulu and Vice Media. Although Viacom explored deals with a trio of smaller comedy sites—The Onion, CollegeHumor, and Funny or Die—the deals went nowhere.

Viacom's ability to navigate the upheaval in youth entertainment is riding heavily on the improved performance of its cable-TV brands. These days, networks are growing more reliant on creating lavish, big-budget, scripted series. Viacom has yet to create any new zeitgeist-defining shows on par with AMC's *The Walking Dead*, Fox's *Empire*, or HBO's *Game of Thrones*.

MTV's Friedman is hoping that will soon change. In late June the network premiered *Scream*, a slasher series based on the hit horror movies of the 1990s. It's also developing a fantasy series called *The Shannara Chronicles*, adapted from the best-selling books by Terry Brooks. *Shannara*, which is being shot in New Zealand, promises to catapult MTV into the land of elves and dragons. "It's a huge undertaking for us," Friedman says. "I think our audience is looking for moments to be emerged in a different world—and to put down their phones."

On a Tuesday evening in April, a crew of MTV personalities strolls to the front of Manhattan's Beacon Theatre. Bursts of febrile music bounce off statues of Greek goddesses flanking the stage. The performers are here to kick off the network's annual "upfront" presentation, designed to convince a gathering of soon-to-be-inebriated media buyers that MTV remains the best place for brands to woo American youth.

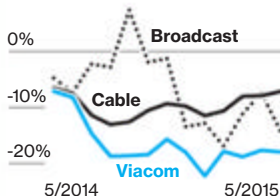
Gazing out over the marketers, Carly Aquilino and Nessa Diab, a pair of comics on an MTV talk show called *Girl Code*, offer a word of warning. The rapidly expanding universe of youth entertainment, they explain, is rife with copycats. "All the TV networks want to be digital, and all the digital guys out there, they want to be us," Aquilino says.

"All those MCNs telling you TV is dead?" Diab says. "Yeah, they're in our offices every day trying to get their shows on MTV."

Aquilino says that in 2014, MTV was named the No. 1 youth brand in the world—by whom, she doesn't say. The only thing holding back broader acknowledgment of MTV's dominance, she says, is the industry's inability to accurately gauge it.

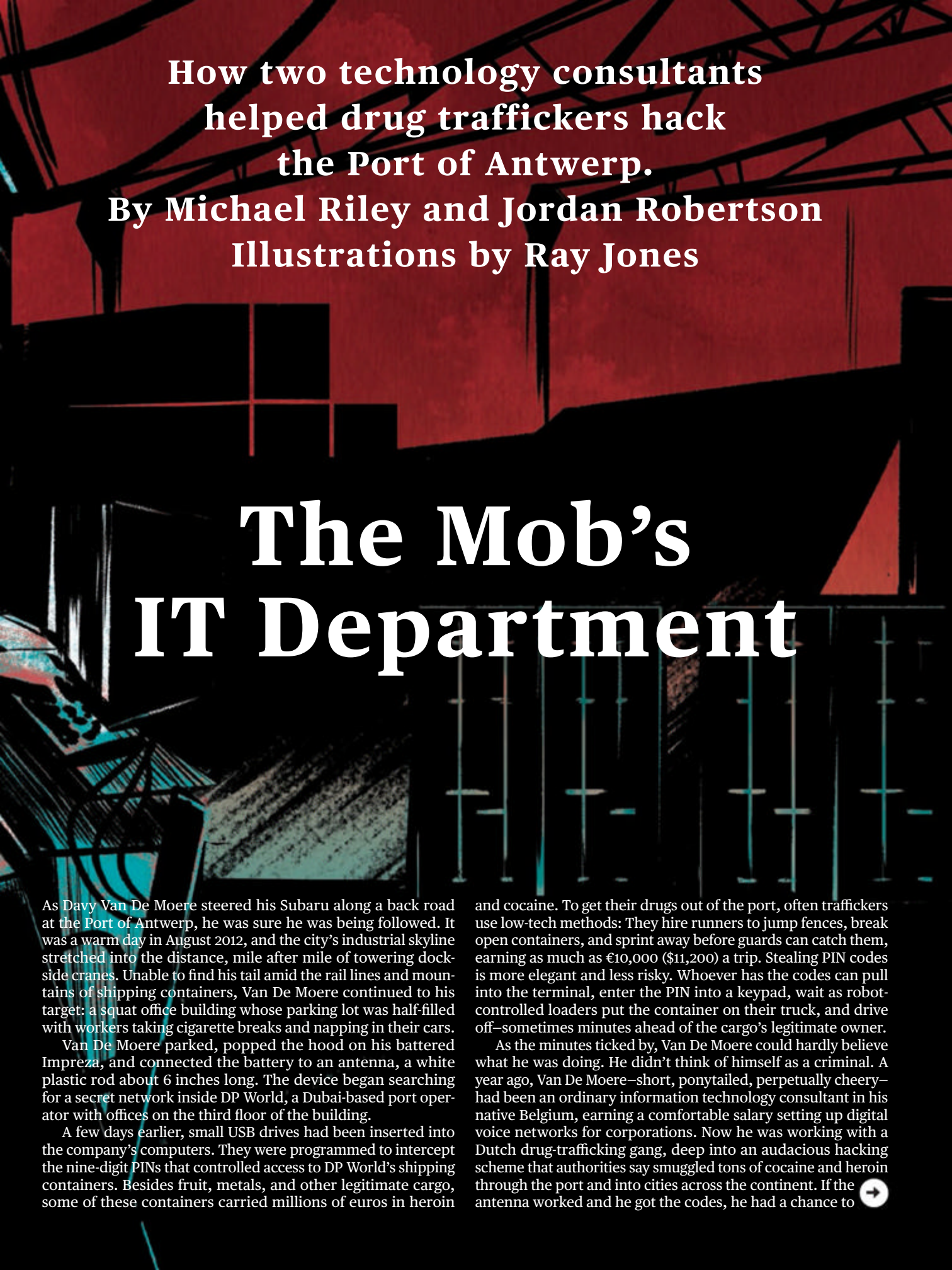
For the next hour, MTV pours on the swagger. At one point, an executive onstage gives thanks to Dauman. For one brief moment, the spotlight catches the diffident CEO, who's watching from the balcony. Dauman rises out of his seat, reaches his arms skyward in a triumphant salute, and blows the ad world a celebratory kiss. —With Chris Palmeri

While all TV viewership has declined in the past year, Viacom's has dropped precipitously.



DATA: MOFFETT/NATHANSON
ANALYSIS OF NIELSEN DATA





**How two technology consultants
helped drug traffickers hack
the Port of Antwerp.**
By Michael Riley and Jordan Robertson
Illustrations by Ray Jones

The Mob's IT Department

As Davy Van De Moere steered his Subaru along a back road at the Port of Antwerp, he was sure he was being followed. It was a warm day in August 2012, and the city's industrial skyline stretched into the distance, mile after mile of towering dock-side cranes. Unable to find his tail amid the rail lines and mountains of shipping containers, Van De Moere continued to his target: a squat office building whose parking lot was half-filled with workers taking cigarette breaks and napping in their cars.

Van De Moere parked, popped the hood on his battered Impreza, and connected the battery to an antenna, a white plastic rod about 6 inches long. The device began searching for a secret network inside DP World, a Dubai-based port operator with offices on the third floor of the building.

A few days earlier, small USB drives had been inserted into the company's computers. They were programmed to intercept the nine-digit PINs that controlled access to DP World's shipping containers. Besides fruit, metals, and other legitimate cargo, some of these containers carried millions of euros in heroin

and cocaine. To get their drugs out of the port, often traffickers use low-tech methods: They hire runners to jump fences, break open containers, and sprint away before guards can catch them, earning as much as €10,000 (\$11,200) a trip. Stealing PIN codes is more elegant and less risky. Whoever has the codes can pull into the terminal, enter the PIN into a keypad, wait as robot-controlled loaders put the container on their truck, and drive off—sometimes minutes ahead of the cargo's legitimate owner.

As the minutes ticked by, Van De Moere could hardly believe what he was doing. He didn't think of himself as a criminal. A year ago, Van De Moere—short, ponytailed, perpetually cheery—had been an ordinary information technology consultant in his native Belgium, earning a comfortable salary setting up digital voice networks for corporations. Now he was working with a Dutch drug-trafficking gang, deep into an audacious hacking scheme that authorities say smuggled tons of cocaine and heroin through the port and into cities across the continent. If the antenna worked and he got the codes, he had a chance to



get his normal life back. If he screwed up, he could end up in prison or in a coffin.

The Wi-Fi antenna failed. The traffickers would be angry. Van De Moere closed the Subaru's hood and drove away. He had only himself to blame. Himself, and his best friend, Filip Maertens.

Maertens and Van De Moere grew up five miles apart in small towns in western Belgium, Maertens in Tielt and Van De Moere in Ardoos. Born in 1978, they favored computers and music over soccer, which made them outsiders. They met at 14, when Maertens hacked Van De Moere's online bulletin board, Bad Habit, named after a song by the Offspring. Van De Moere angrily challenged Maertens to settle their differences in the schoolyard. He backed down when he saw that Maertens was two heads taller than he. They talked instead. Maertens, who was confident, charming, and moody, described the bug he exploited to hack the site. They became friends, meeting regularly to discuss PCs,

were in the lobby of a fashionable hotel near Rotterdam, where Adibelli, a stylish Turk in his 40s, ran an import-export company called Ogear Trading. It was based in the suburb of Barendrecht. Favoring a brown leather vest, expensive jeans, and button-up shirts, the mustachioed Adibelli hand-rolled cigarettes with astonishing dexterity and was cavalier about money. He didn't blink when Maertens said he was looking for an investment of more than €1 million. That would have valued Maertens's untested company, Argus Labs, at more than €5 million, which other potential investors thought too high.

Maertens was eager to prove his business skills. When Adibelli said he was building an office, Maertens offered to help procure and install computer equipment. When Adibelli said he wanted to invest in the cement industry, Maertens introduced him to two CEOs in the field. As the courtship deepened, Maertens visited the investor's Rotterdam apartment, and they scouted office space for Argus Labs at an Antwerp high-rise, according to police records.

By the time they understood what they were involved in, they were already implicated

swap books on programming, and fumble their way through Metallica guitar solos in Maertens's garage.

By 18, they'd founded an Internet Relay Chat channel called Securax, which became a popular home for Belgium's fledgling hacker community, at one point boasting almost 100,000 subscribers. As their fame grew, Van De Moere and Maertens became sought-after commentators for Belgian media, and they were eventually hired by Ernst & Young to audit computer networks.

Their careers went in different directions, with Van De Moere building Internet voice networks and Maertens getting into security consulting, but they stayed close and helped each other out of jams. When Maertens double-booked meetings, Van De Moere gave presentations for him—even sometimes as him. When Van De Moere's startup, Attractel, got in financial trouble, Maertens quit his job, became chief executive officer, and helped raise money. (The company folded during the 2008 financial crisis.) The pair literally trusted their lives to each other during rock-climbing and extreme mountaineering expeditions.

By the middle of 2011, each was living comfortably. Van De Moere was chief technology officer of Mondial Telecom, a Belgian mobile software company, making €12,000 a month. Maertens was making €20,000 a month consulting, including a project to help ING, the Dutch bank, build a mobile banking platform. Then he got an itch that would end the peaceful part of their lives.

According to prosecutors in the Netherlands and Belgium, what happened next transformed the pair into masterminds of one of the biggest drug-smuggling operations in Europe. The case, detailed in thousands of pages of police reports and court records, allegedly shows how mobsters and hackers teamed up to commit sophisticated crime, manipulating global logistical and transportation networks for huge gain. The hackers' version of events, which they laid out as they wait for their fate to be determined later this year by Belgian authorities, differs sharply: a story of two men who became pawns of a violent group through coercion and a series of very bad decisions.

That summer, Maertens had an idea for a smartphone data-mining startup and began cold-calling potential investors. A friend put him in touch with Orhan Adibelli, a businessman in the Netherlands with an interest in technology. Their first meetings

After months of negotiations, Adibelli abruptly called the deal off in December 2011, but not before introducing Maertens to an associate. Stocky and built like a street fighter, Ahmet Okul was a Turkish national who ran the Euro Spyshop, a store full of eavesdropping gear in the Dutch town of Arnhem. He told Maertens he was Adibelli's technical adviser. For geek cred, Okul wore a T-shirt from Def Con, a popular hacking conference in Las Vegas, and he and Maertens hit it off discussing interception equipment. Okul loved to talk about hacking. He grilled Maertens about penetration testing, where companies pay white-hat hackers to break into their own networks, and about "pwnie" devices, which are minicomputers disguised as power strips and Internet routers that can go unnoticed in an office while intercepting network data. Pronounced *pony*, the name is a play on the hacker slang of "pwning," or owning, someone else's device.

Aside from his consulting job with ING and his Argus startup, Maertens had another gig, occasionally giving classes on hacking techniques to clients that included the Belgian government's computer crime squad. Still hopeful that Adibelli might eventually invest in his company, he began giving Okul private hacking lessons, charging him at least €1,000 a class, according to police.

One day, Okul said he wanted to obtain a pwnie for a client. Maertens demurred. A week later, Adibelli called. Get to Barendrecht for a meeting, he told Maertens. Immediately.

Adibelli's office, located next to a coroner on a quiet street, was sparsely decorated. The first floor held a handful of desks where during the day employees discussed fruit shipments. The export-import company's name appeared nowhere. The sole decoration was a poster of a dozen varieties of mangoes. Visitors and employees had to leave their cell phones before going upstairs.

There, Maertens found Adibelli, Okul, and two men with greasy hair and powerful builds.

Maertens was told he'd failed to answer several urgent calls from Okul, costing his customers—presumably the two unnamed men—a lot of money. Scared and befuddled, Maertens denied the accusation and got up to go. Okul threw him against the wall, and Adibelli punched him repeatedly in the chest and stomach. He hobbled away with dark purple and red bruising across his torso.

Driving home, Maertens called his best friend and asked for help.

He and Van De Moere discussed going to the police. They later explained they dismissed the idea out of fear. These were clearly men who didn't resolve disagreements with the usual conference call or attorney's letter. Calling the authorities would anger them more. They decided the prudent course was to let the whole bizarre incident go and hope Maertens never heard from them again.

But Adibelli phoned a week later. He was chatty and friendly, asking how Maertens's New Year's celebrations were. And he requested another meeting in Barendrecht. Scared to say no, Maertens went, bringing Van De Moere along as his wheelman in case he had to escape quickly.

Upstairs, Okul got right to the point: He said he was sending malware by e-mail and that too many of his messages failed. Van De Moere had planned to stay out of sight, but Adibelli and Okul noticed the conspicuous whine of his Subaru driving up and down the street. Maertens admitted it was his friend and motioned out the second-floor window for him to come up. Van De Moere took a long time to think before he rang the buzzer.

Over coffee and cigarettes, Adibelli and Okul were disarmingly casual. They kept discussing hacking and pwnies as if Van De Moere—a stranger to them—hadn't entered the room. Okul said he needed a new way to intercept e-mail, and he asked Maertens to build him a pwnie that could be ready in a few weeks.

On the drive back to Belgium, Van De Moere and Maertens sized up their dilemma. Kids in Antwerp grow up inundated with news stories about shady shipping companies pushing narcotics through the port, and the friends now had little doubt that Adibelli and Okul were somehow involved in the drug trade. They'd already decided that going to the police wasn't an option, they later explained, so they rationalized. Building pwnies isn't itself a crime; anyone can buy a version on the Internet. As long as they were only supplying a device and not operating it for whatever scheme Adibelli and Okul had in mind, the pair concluded they wouldn't be breaking the law.

The device they built looked like a European version of a power strip. Tucked inside a 15-by-5-inch casing was a tiny Linux computer running powerful hacking software called Metasploit. The pwnie sent out data via cellular networks, which meant they could be accessed from anywhere.

Several weeks after delivery, Okul couldn't get the device to work. Maertens and Van De Moere were summoned to Barendrecht, and this time Adibelli flashed a holstered handgun. He

pointed to a newspaper story about a murder, the latest in a spasm of trafficking violence engulfing Belgium and the Netherlands. "You don't know who you're f---ing with," Adibelli said. "If you don't do what we want, there will be casualties." Adibelli pushed a white plastic bag across the table and instructed the pair to try again. He assured them that what was inside would motivate them to make the pwnie work. On the drive home, they found €25,000 in small bills.

Adibelli was clever, recruiting Van De Moere and Maertens the way a spymaster develops a double agent. By the time they understood what they were involved in, they were already implicated. But as it became clear they weren't about to be let go, they devised an ambitious plot of their own, hoping to dodge the mobsters and police alike. Was it so crazy to think it might work? After all, they figured, the criminals had hired them for their brains.

For all of Okul's hacker talk, his technical expertise was thin. At one meeting, he showed off a device meant to block nearby cell signals and thwart eavesdropping. It worked for about five minutes, then the signals popped back up. The friends had a flash of inspiration: Okul screwed up all the time, and he wasn't dead. Failure, Maertens and Van De Moere realized, was an option.

The pair decided to bluff. By misconfiguring devices or making other small sabotages, they thought, they could look like they were cooperating without doing much harm, and the mobsters would eventually fire them and move on.

Over the next several months, they built more pwnies, all deficient in small ways. One would trigger security alerts when placed on any network protected by antivirus software. Another would reboot automatically anytime someone accessed it. When Okul asked to use Wi-Fi instead of 3G, Van De Moere lied and said there wasn't enough capacity.

By June 2012, what was supposed to be a one-off deal had turned into almost full-time work. Maertens and Van De Moere were finding it difficult to meet the demands of their day jobs and Okul's escalating needs. Okul called and texted constantly, peppering the pair with technical questions over special encrypted phones he'd provided.

One day, Van De Moere and Maertens were told to take an improved pwnie to a chic harborside bar in Antwerp called Hangar 41, where they were met by two men in mirrored aviators and expensive suits. The men showed off their lock-picking tools and bragged that they could enter any building



unnoticed. They seemed to be the ones responsible for installing pwnies inside the shipping company offices. The men asked where the devices should be connected to capture the most data. Maertens and Van De Moere lied and said the printer.

The sabotage plan wasn't working. Okul was relentless, assigning Van De Moere to teach the installers how to use pwnies and drive around picking up SIM cards and other equipment. The pair were increasingly desperate to get out. Van De Moere stopped answering texts; Maertens shaved his head, telling Adibelli he'd been diagnosed with a brain tumor.

One day in July, a muscled man in shorts and flip-flops came to the Argus Labs office and demanded Maertens come with him to meet Okul at Hangar 41. He issued the same order to Van De Moere by phone. Van De Moere lost his cool and started taunting the man. The caller responded by reciting the addresses of Van De Moere's family members as well as Van De Moere's own address, a remote farmhouse outside of Bruges where his wife was often alone.

Van De Moere floored it to Antwerp, making the hourlong drive in half the time, zooming past the flashes of freeway speed cameras. Okul got his start in organized crime as a "taxi driver"—an enforcer who transported people who'd fallen out of favor or behind on a debt to whatever fate awaited them, usually in the trunk of his car. At Hangar 41, he told Maertens and Van De Moere they were coming to Barendrecht to talk to Adibelli—and they could either follow him or ride in the trunk. They followed.

Once in Barendrecht, Adibelli threatened to put a bullet between Van De Moere's eyes if he ignored Okul again. And then Okul gave Van De Moere a new job: He was to drive to specific office buildings to make sure the implanted devices were working properly.

Adibelli came to the attention of Dutch authorities in the fall of 2011, when his apartment in Rotterdam was burglarized. Someone called the police; a search turned up signal-jamming devices, keylogging software, and eavesdropping equipment. Investigators also found a bill of lading for a shipping container from South America that had been loaded with cocaine and seized by police, as well as notes of a meeting with Maertens that referenced DP World and other shipping companies. Clues continued to pile up, but it would be more than a year before police began to connect Adibelli to the various tentacles of a vast trafficking operation at the port.

A breakthrough came in July 2012, when criminals took a container of zinc thought to hold Colombian cocaine to an industrial area south of Rotterdam, where they stopped for 10 minutes. According to court records, the address was a distribution hub for a Dutch drug-smuggling ring led by Frits Becker—aka "Mango" and the "*man met de snor*," which translates as the "man with the mustache"—whom police had been trying to bring down for years. Then on July 30, port authorities seized more than 250 kilograms of cocaine inside a container, a discovery that led them down an unexpected path. They noticed a pattern of containers destined for a German company called South America Trading. It was a front. According to police records, the company was taking shipments of supposedly legitimate goods—towels and caustic soda from Pakistan, beans and nuts from Mozambique—and selling them to a company from the Netherlands called Ogear Trading, owned by Orhan Adibelli.

The Port of Antwerp handles 200 million metric tons of cargo a year. As the No. 1 transit point for South American fruit, it's Europe's largest port of entry for Colombian cocaine. Traditionally, the best way to get the drugs out was to bribe port officials, but a recent crackdown had proved effective. When containers began to show up outside the port abandoned, the drugs they presumably contained long gone, authorities started to suspect the smugglers had found a way around the port's security system, which assigns each container the unique code available only to



the proper shipper. Investigators were stumped until the fall of 2012, when employees of Mediterranean Shipping (MSC), a large Swiss shipper, began complaining about slow computers. Typed words were taking too long to appear on the screen.

Technicians found a bunch of surveillance devices on the network. There were two pwnies and a number of Wi-Fi keyloggers—small devices installed in USB ports of computers to record keystrokes—that the hackers were using as backups to the pwnies. MSC hired a private investigator, who called Price-waterhouseCoopers' digital forensics team, which learned that computer hackers were intercepting network traffic to steal PIN codes and hijack MSC's containers.

Police quietly reached out to other big port companies and found they'd been hit in the same way. One pwnie had been installed at MSC in June 2012, showed up at the Chilean shipper CSAV three weeks later, and placed back at MSC three weeks after that, according to police. MSC confirmed that its container-tracking systems were breached and that the company hired PwC to investigate and secure the network. The other shipping companies and port operators didn't respond to requests for comment. DP World investigated an Aug. 15 break-in and found Wi-Fi keyloggers there as well. Surveillance video taken a few days later showed a man behaving strangely in the parking lot, an antenna hooked up to the battery of his Subaru. It was Van De Moere, wondering whether he was going to get out of this mess alive.

Prosecutors' theory of the case is that Adibelli was an intelligence broker who sold PIN codes to Becker's group and smuggled drugs on the side. Phone taps and financial records show drivers were paid as much as €5,000 per theft and would spend hours, sometimes a full day, waiting along the A58 highway for word that shipments had come in. Cell phone records reveal a passenger in Becker's car texting and calling the drivers to give them the PIN codes.

In this view, Maertens and Van De Moere masterminded the hacking operation with Okul to make some quick money. Cell phone records show Maertens and Van De Moere meeting numerous times in Antwerp to drop off pwnies to the men who later the same nights would break into the shipping companies. The pair were caught on a phone tap discussing an antenna they ordered from China that never arrived. (Customs officials had intercepted it.) In late September 2012, investigators attached a tracking device to Van De Moere's car, but they were foiled by an emergency engine repair that left the Subaru in the shop for a month.

When the hacking didn't work, things ended badly. In one case, cocaine was hidden inside two containers of artichokes from Peru that were picked up by the rightful owner before the smugglers could get there with their stolen PIN. The truck driver was chased down the highway by attackers in Audis shooting Kalashnikovs.

By fall, Maertens and Van De Moere found themselves with

little to do. The most plausible explanation is that the scheme had been exposed and port companies had removed the hacking tools from their networks. In September 2012, Adibelli summoned them to Barendrecht for another meeting.

In Belgium, guns were impossible for two IT consultants to get on short notice. So Van De Moere and Maertens each bought low-power commercial Tasers for protection. The night before the meeting, they practiced quick-drawing the Tasers in front of a mirror.

They drove the next day to the Netherlands and parked in the lot of the chic hotel where Maertens first met Adibelli. They cracked open two Jupiler beers in the car. Maertens was already drunk. They had both said cryptic goodbyes to their families.

When they arrived at the Barendrecht offices, Adibelli took Maertens downstairs.

Maertens begged for his life.

"This is really bad—this isn't who we are—please leave us alone," he said.

To his surprise, Adibelli agreed. "If you wanted out, why didn't you let us know?" he said. Maertens was too scared to bring up the beating and the kidnapping and death threats. "Obviously, you know we're not in a legal business," Adibelli added. "So if you talk to anyone, we know where you and your family live."

Adibelli brought Van De Moere down next and asked him if he wanted out, too. Van De Moere said yes.

There was only one condition of the release: Van De Moere had to give Okul an intensive training session on Linux, the operating system on which Metasploit, the hacking software, is based. A few weeks later, according to police and interviews, he did so over one weekend at a Holiday Inn in Ghent. In November, Van De Moere returned two antennas and had a couple of beers with Okul. That was the last either man would see of the Turks.

With the PIN code operation blown, investigators were having an easier time disrupting Becker and Adibelli's operations. On Nov. 21, 2012, a driver tried to pick up a refrigerated container of mussels at the Antwerp port but didn't have the right PIN. Instead, he presented a forged purchase order. Customs officers searched

Okul left for Turkey, too. He recently posted a Facebook picture of himself on a jet ski.

The Dutch portion of the case is expected to go to trial in November and involve at least 22 people, including Becker, who authorities say has been charged with drug-trafficking offenses as the alleged leader of the smuggling ring. Becker's lawyer didn't return calls. Adibelli has been charged in absentia with organized crime and drug offenses. His lawyer, Pol Vandemeulebroucke, says his client denies all blame. Belgian prosecutors handling the hacking case declined to comment on their plans for Adibelli and Okul, who are both formally suspects there. Okul, who now operates a spy shop in Turkey, didn't respond to requests for comment through the shop and via Facebook. There is no record of him having a lawyer. In the Netherlands and Belgium, targets of an investigation are considered under suspicion until the investigation is formally closed and the case moves to the trial stage.

That leaves Van De Moere and Maertens. The Belgian case, code-named Ocean's 13, has them being investigated on suspicion of hacking into the Antwerp offices of DP World, CSAV, and MSC. Maertens and Van De Moere were adamant in police interrogations that they were unwilling accomplices, forced to hack under threat of violence. They insist their sabotage made the pwnies useless and that if Okul stole PIN codes they must have come from his phishing e-mails. Van De Moere says that when he parked at DP World, he intentionally was far enough away that he couldn't get a good signal.

Authorities say Maertens and Van De Moere played a more central role. Police found evidence that when Maertens and Adibelli visited the Antwerp high-rise in November 2011 to scout out offices for Argus Labs, the offices they visited were above and below CSAV, where a pwnie was later discovered.

In February 2013, months after Van De Moere and Maertens say they last saw the mobsters, CSAV, DP World, MSC, and another port operator called PSA Antwerp were targeted by a new round of malware-laden e-mails. The messages were sent from a cellular tower in Wuustwezel, near a location where Maertens kept a computer server, according to police records. Asked about the e-mails during his initial interrogation,

Maertens was desperate. He shaved his head, claiming he'd been diagnosed with a brain tumor

the container and found 190 kilograms of cocaine—another case that authorities have linked to Becker and Adibelli, according to police records.

On June 11, 2013, Van De Moere awoke just after dawn to find a dozen cops surrounding his farmhouse. Maertens was on vacation in the south of France with his girlfriend, celebrating a new round of funding for his company. He got a frantic call from his house-sitting brother, who was surrounded by armed officers and a drug-sniffing dog, and immediately returned to Belgium.

At the same time, Dutch police arrived at Adibelli's home to discover he'd returned to Turkey a few days earlier. In his bedroom, they found a pistol under the mattress and two in the closet. In another bedroom, they found a bag with a machine gun, bullets, and a silencer, and elsewhere a suitcase filled with €1.1 million and a bulletproof vest. At his office, they found signal jammers and documents linking Maertens and Van De Moere to the attacks on DP World, CSAV, and MSC. Adibelli had left in a hurry, ahead of his family. Authorities believe he may have been tipped off.

Maertens said he couldn't explain it, but he wasn't involved.

What the police don't have is much of a money trail, adding credence to the hackers' claim that they were coerced. Even though Maertens and Van De Moere were cast in the local press as major figures responsible for the smuggling of hundreds of millions of euros in illicit drugs, police later released seized assets related to Maertens's company after they were unable to link them to the caper.

In June, as he awaited trial, Van De Moere sent *Bloomberg Businessweek* an e-mail looking back at his ordeal. "Towards Filip, I'm not the type of guy which easily gets angry," he wrote in English. "Of course we've went over and over how Filip could or couldn't have seen/figured out these guys were no good, but the conclusion each time was they are masters in manipulation." Adibelli and Okul had tried the "divide and conquer" trick on them, Van De Moere said. "Our best move to get out of a bad situation was to stick together. We could only get out as a front." ③

—With reporting by Elco Van Groningen and Ercan Ersoy

**“What’s the only rule in a gunfight?
Win the gunfight. There are no rules”**

**THE
POLICE**

58

**“I’ve thought
about how hard I have to
bite somebody in
their neck to
rip their carotid artery out”**

“Treat it with dignity and respect.
But you have to be prepared to do
what? Kill them if you have to”

A rare look inside
a training course
for midcareer
cops

By Peter Robison

Photographs by
Brad Swonetz

“All around the
country, they want us to stop
using the word ‘warrior.’
Oh, no, ‘customer service’”

Forty cops are in a classroom, watching recent footage of protesters in San Francisco denouncing the police. “Your children are ashamed of you,” a black woman in the video tells a black officer, who looks away. “Coward!” others shout. A young demonstrator walks up to a cop and sticks out his middle finger. A female officer trips, and the demonstrators laugh.

The volume is way up, and the cops in the room are leaning back in their chairs, crossing their arms, getting tense. Jim Glennon steps to the front of the room and stops the video. Glennon, 59, spent 29 years as an officer in Lombard, a suburb of Chicago, at one point running county homicide investigations. He’s 6-foot-1, 210 pounds, and has the gravelly voice and bearing of the desk sergeant on the 1980s TV show *Hill Street Blues* who told cops to “be careful out there” before the squad cars rolled. “Welcome to our world,” Glennon says. “It’s as bad as it’s been since the ’60s and ’70s.”

The officers nod in agreement. At one point, Glennon asks how many of them

have been spat on. Most raise their hands. They’re sitting at long tables in a bland room in a facility in Urbana, Ill. A former county nursing home, it’s now occupied by the Illinois Law Enforcement Alarm System, created in 2002 to coordinate statewide responses to terrorism and disasters. The lobby features a mannequin in tactical pants and mirrored sunglasses, a table of books and brochures—among them, *Developing the Survival Attitude* and *Online Predators*—and a big-screen TV tuned to Fox News.

Glennon runs Calibre Press, one of the country’s largest private police training companies, and this is the start of a two-day seminar, *Street Survival*, which has been taught to hundreds of thousands of officers over four decades. Since buying Calibre Press in 2012, Glennon has expanded its offerings from 35 classes a year to 190, with titles such as *Surviving Hidden Weapons*, *Arresting Communication*, and *The Bulletproof Warrior*, putting Glennon or one of his eight instructors in front of 20,000 officers annually. Every

week officers around the country get continuing education from similar classes taught by retired police or active ones. These classes are the conduits through which the profession’s generational knowledge, tactics, and hard-won lessons spread.

Like many companies in the business, Calibre promotes a “warrior” mentality for police, likening cops to soldiers and focusing on conflict, vigilance, and martial skills. The purpose of *Street Survival*, according to the course description, is to “keep officers alive and give them the tools to enjoy a successful career in law enforcement.” In other words, how not to get killed or fired. Heart attacks, suicides, car accidents, and errors of judgment are all discussed, but most pervasive is the sense that an officer unaware of his surroundings is doomed to assault from an unseen threat—that any routine traffic stop can end in a shootout and that the only rational response is to be in a state of lethal alert at all times.

How programs such as *Street Survival* emphasize danger may

explain much about how officers meet the public. Outside the classroom, the nation is again transfixed by the issue of police brutality. As class gets under way this morning in June, a cell phone video of a cop pulling his gun on frightened teenagers at a pool party in McKinney, Texas, is going viral.

Glennon's students are mostly white men in their 20s and 30s, some with firearms strapped to the belts of their cargo

pants, joined by a handful of women, black officers, and older men. They're from Illinois towns such as Danville, Champaign, and Normal—the kind of unremarkable Midwestern places that Ferguson, Mo., used to be until a white cop

killed a black teenager there a year ago, igniting protests. Since then, sometimes violent demonstrations have followed similar incidents in Baltimore, Cleveland, Albuquerque, and elsewhere. One student in the class interrupts to say it doesn't help when the president sympathizes with protesters. "It doesn't," Glennon says. "It's easy to demonize the cops." He tells them law enforcement ranked as less respected than medicine in a recent Gallup poll—even though, he says, doctors' mistakes kill 98,000 people a year while police kill 400. "And they're ahead of us on the list?" he asks in exasperation. (The FBI estimates there are about 400 annual justifiable police homicides. One *Washington Post* tally found almost that number killed by police in the first five months of this year.)

Before proceeding, Glennon points to a threat in the back of the room: me. "In 35 years, we have not allowed the press to come into a class," he says. "The reason is because we don't trust them." He says he's letting me observe because many police chiefs are frustrated no one is advocating for them. They're tired of being portrayed in the media as racists and unaccountable killers and want a more sympathetic depiction. If my article screws them, he tells the class with a smile, "I'll fly out to Seattle"—where I live—"and kill him."

Glennon begins class by asking everyone to remove their hats for the Pledge of Allegiance. Then, to bagpipe music, he shows photos of Illinois cops killed in the line of duty over brief captions describing how they died: assaulted in a bar; assaulted with a vehicle; shot during a robbery; shot during a robbery while off duty; shot in an ambush; shot with his own gun.

Some police chiefs, Glennon says, won't show their departments the graphic

incidents he's about to screen, fearing officers will become too aggressive or quit. "All around the country, they want us to stop using the word 'warrior,'" he says. "Oh, no, 'customer service.'" The hard truth, he says, is that not everyone in a community is a customer—that is, a civilian who needs help. Police often deal with people who don't want them there and who sometimes want them dead.

He plays a video of Georgia officer



At a June Bulletproof Warrior seminar in Vegas

Kyle Dinkheller, who pulled over a man named Andrew Brannan for speeding in 1998. Brannan began dancing, daring Dinkheller to shoot him. Brannan returned to his truck to retrieve a weapon, boasting, "I am a goddamn Vietnam combat veteran."

During an exchange of fire, Brannan put a fatal bullet into Dinkheller's right eye. Glennon says that before Dinkheller was murdered, he'd called Brannan "sir" 27 times and gave 39 orders. None were complied with. "What's he thinking about in the middle of a gunfight? That he's going to get in trouble! He's more afraid of his bosses than he is of an M1 carbine."

We watch many more officers maimed, beaten, or killed, often through the monochrome of a dashboard camera. A rifle-toting man in Texas shoots highway patrolman Randall Wade Vetter after a traffic stop, then says, "Oh my goodness, that feels good." A beefy Texas constable pulls over three suspects who confer in Spanish, then disarm and kill him. In South Carolina, a black man is asked to take his hands out of his pockets. The man pulls a gun, killing white officer Scotty Richardson. After that incident in 2011, Glennon says, some online commentators called Richardson a racist terrorist. "And people say we aren't supposed to let this affect us," he says.

He quotes the Greek philosopher Heraclitus, who believed only one man

in 100 was a true warrior. Glennon tells the police they should mentally prepare themselves for unexpected attack, watching for telltale signs: a quick exit from a car; clenched fists; "scanning" (when a suspect seems to be creating his own tactical awareness of a scene); or looking away. "I've thought about how hard I have to bite somebody in their neck to rip their carotid artery out," he says. "I think about how far do I have to shove my thumb into his eye socket to gouge his eye out." Glennon then asks me to join him in the front of the class for some role play.

He pairs me with Jason Jeffries, 28, who's in his first year on the force in Danville. Glennon hands us dummy pistols and describes a scenario: We're patrol officers on crowd-control duty outside a Barry Manilow concert. There's an easy-going vibe—until we spot a man leaning against a building with a gun, casually twirling it around, intentions unknown. People run, terrified.

Glennon plays the man with the gun; we're to say "bang" when we feel justified in shooting. Jeffries and I point our guns at him. Jeffries orders him to drop the weapon. Glennon starts to put it down, then points it at us and says "bang." We're dead. Glennon has us try again. Jeffries says "bang" immediately. The cops laugh.

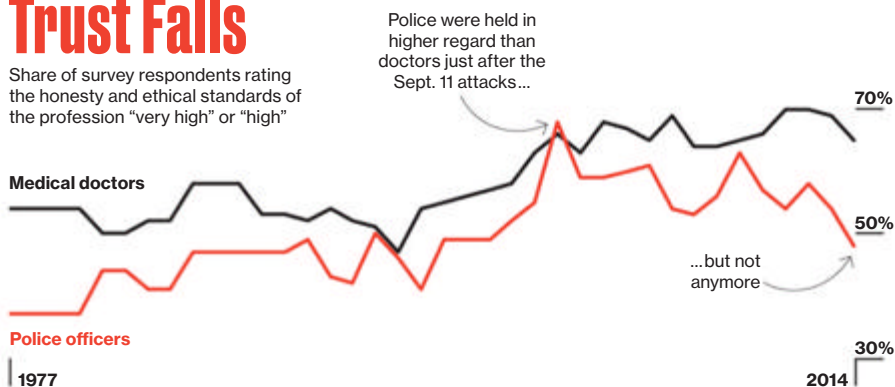
Glennon asks me to take the lead. I fail, again and again. He runs away, then fires at me when I hesitate to shoot him in the back. He pretends to put the gun to his head, only to turn it on me. The message: Action is faster than reaction. Hesitate, and you're dead. "Ninety-nine percent of the people we meet, maybe higher, aren't trying to kill us," Glennon tells the class. "Treat it with dignity and respect. But you have to be prepared to do what? Kill them if you have to."

Being drilled to think of everything and everyone as a threat fries my nerves. That evening at my hotel, I press the elevator button and suddenly hear gunfire behind me. It's the ice machine.

"War stories are how cops get trained," says Seth Stoughton, a former patrol officer in Tallahassee, who's an assistant

Trust Falls

Share of survey respondents rating the honesty and ethical standards of the profession "very high" or "high"



professor at the University of South Carolina School of Law.

There's no universal model for police training, with almost 650 police academies around the U.S. and more than 12,000 local departments, according to the Department of Justice. In addition, many agencies provide continuing education offered by their own officers or private companies. Costs, such as the roughly \$170 per person for Glennon's course in Urbana, are frequently paid by local departments or state agencies. One constant is the emphasis on danger. Officers are often told death is a single misstep away, Stoughton says.

Glennon's company is one of several that reinforce the warrior mindset. Others include Winning Mind Training, founded by a former policeman from Calgary, and Killology Research Group, run by a retired U.S. Army lieutenant colonel. The industry's courses, books, videos, and websites extend the war footing into places far beyond the nation's traditional murder capitals. During a Street Survival break, Richard Raney, chief of police in Tolono, Ill.—population, 3,467—tells me he uses Killology combat breathing techniques to calm himself before a call: four deep breaths to get more oxygen to his brain. “I try to stress that complacency kills you,” says Raney, who looks like a mild-mannered corn grower in glasses, ball cap, checked shirt, and jeans.

For all the concern about risks, the rate of officers murdered in the line of duty is dropping, according to FBI statistics. In 1984 the 10-year average was 97 a year; as of 2014, it was 51. With some 63 million face-to-face interactions a year between police and the public, a cop's chances of being murdered are fractions of a percent. “It's not at all that law enforcement isn't dangerous,” Stoughton says. “We are still losing almost one officer a week to murder. But it's far, far safer than officers are being led to believe.”

President Obama's post-Ferguson task force on policing recommended “guardian” as an alternative to warrior, saying it would build more trust and legitimacy. A training approach called Blue Courage is gaining favor in some places, prodded in part by grants from the Department of Justice. The curriculum, developed by a retired officer, encourages communication over confrontation. Arizona became the first state to adopt the approach in 2013, followed by Washington state.

Led by Sue Rahr, a former county sheriff, Washington is emphasizing officers' roles as protectors. State trainers still teach handcuffing and other physical skills but try to put them into context. Recruits might fail a class if they use force when it isn't necessary, and

Blues Brothers

Share of law enforcement workers who say their work makes the world a better place

83% 2010 **71%** 2015

Share of law enforcement workers who say they're satisfied with their job

77% 2010 **65%** 2015

FIGURES DON'T ACCOUNT FOR CHANGES IN THE SAMPLE DATA: PAYSCALE

Milwaukee's Ed Flynn is among the police chiefs who dislike the term warrior. He says it can make cops regard themselves as occupiers. He's expanded training in crisis intervention, which teaches a less confrontational way of handling mentally ill people. Still, he says, it bothers him when people act as if all the problems in American society—emptied-out mental hospitals, the breakdown of families, poverty—can be addressed with better police training.

“We have to toggle back and forth between being the Peace Corps and the Marine Corps,” Flynn says. Five months into 2015, Milwaukee had 56 murders, almost triple the number at the same time last year. An additional 175 people were shot. Last year the city of 600,000 seized almost as many guns as New York. “That's what the cops are going into,” Flynn says. “At a certain time of night, the nice people who want them, who dial 911, are [all at home], and the streets are full of those men who have chosen a criminal lifestyle and are heavily armed.”

On the second morning of Street Survival, Glennon puts on screen a grainy image of himself as a young cop, sobbing. It's from a local newspaper. He'd just pulled a drowned toddler out of a pond. The boy's body had popped up like a cork when he'd jostled it with his foot. Years later, while going through a divorce, he dreamed about that moment two or three times a week. “If you can't save kids, then you're worth nothing in your mind,” he recalls a counselor telling him.

Glennon tones down the warrior message at times; he says officers have to be guardians, too. He advises them to put their clipboards down, look people in the eye, and listen before taking a report. Glennon plays videos showing cops losing

they're no longer asked to snap to attention and salute passing superiors. Instead, they're expected to initiate a conversation. “When you're out working in the street, you see the very worst of society,” Rahr says. “It's very easy to get caught up in running and gunning.” She put up a mural of the U.S. Constitution on a wall that once featured a trophy case with nightsticks, badges, and other gear.

their cool, abusing prisoners, letting stress get the better of them. “Ten seconds of poor judgment can lead to discipline, career derailment, depression, prison, and/or suicide,” he says. “Balance is the hardest part.”

During a break, I'm approached by Erik Bloom, who was Champaign's 2009 Officer of the Year. “A lot of what you're seeing in these videos is that traditional, stoic approach,” he says. “I'm not going to ever cuss at somebody. I'm there to counsel them and advise them.” Shawn Johnson, a campus officer from the University of Illinois at Urbana-Champaign, also seeks me out. He's one of three black officers in the class of 40. Johnson says some communities have historic reasons to be distrustful, and police need to bridge the gap with dialogue. He often visits classrooms to teach teenagers about what to expect if they're stopped. In role play exercises, some kids tell him, “Cops don't talk like that,” while others ask, “Is that the way we act? No wonder police do what they do,” Johnson says.

In class, Glennon says that nothing bothers a cop more than being called a racist. “Police officers, no matter what your color, save more black lives than anyone else,” he says. The consequences are already plain in Baltimore, he says, where crime is soaring as police hang back in the wake of the April riots over the death of Freddie Gray, who suffered a severe spinal cord injury while in police custody. The *Baltimore Sun* reported that murders in the city hit the highest level in more than 40 years in May. Arrests dropped 60 percent in West Baltimore, where the rioting started.

As the class proceeds, scrutiny of Corporal Eric Casebolt's behavior in McKinney intensifies. In a video blanketing cable news, Casebolt wrestles a 15-year-old black teenager in a bikini to the ground, pulls her by the hair, and then aims his pistol at two boys who run up to him. To Stoughton, it's the perfect metaphor for the excesses of the warrior: an amped-up cop who made the situation worse and endangered everyone's safety. Glennon sees it as a textbook tactical matter. “There were two guys flanking him,” he tells the officers. Casebolt, from his perspective, couldn't see one boy's left hand. (Casebolt later quit after his chief called his actions “indefensible.”)

As the class winds down, Glennon tells the young officers to be prepared to improvise. On one of his first domestic disturbance calls, he says, an older cop hit somebody over the head with a toaster. Glennon asked where he'd learned that. “Nowhere,” the cop replied.

“What's the only rule in a gunfight?” Glennon says. “Win the gunfight. There are no rules. That's it, right?” **B**

NATURE CLEANS OUR AIR



Did you know that trees absorb

1/5

of carbon emissions?

Sixty years ago, The Nature Conservancy's first act was conserving a forest in New York. Today, we help people all over the world to protect the life-giving services their forests provide.

Help nature to breathe easier. Learn how at [nature.org](https://www.nature.org).

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Protecting nature. Preserving life.®

JUDD
APATOW ONSTAGE

SUMMERY STRAW BAGS

THE NEXT 'IT'...
WATER BOTTLE?

DENTIST TO THE
ROYALS

ETC



HOW PAINT NITE IS SAVING THE AMERICAN BAR

BY JOEL STEIN

Most startup creation myths involve seeing a solution to some horrifying problem no one else noticed. Not so for Dan Hermann and Sean McGrail, who were at a female friend's birthday party four years ago, drinking wine and painting landscapes, and said, "More of this."

"We thought, This is catering to all women. How bad can it be?" Hermann says. He's drinking a Harpoon IPA out of a Mason jar at 5 p.m. at his office in Somerville, Mass., along with the rest of the 80, mostly female, Paint Nite employees. Most of the company's employment ads read: "It's one of few jobs where you can drink on the job." McGrail downs his pint, and the two founders head out—they're off to drink at dinner before drinking again at a Paint Nite class—walking by conference rooms named things like Gin Fizz and Midori Sour.

The paint-and-sip industry is a little more than a decade old. People show up to drink while an instructor slowly guides them, step-by-step, through the creation of a prechosen design. The idea was pioneered by Painting With a Twist, which two women in New Orleans started while looking for a reason to gather after Hurricane Katrina; it now has 200-plus locations, more than a third of which opened last year. Based on growth, it was rated the No. 1 franchise in *Entrepreneur* magazine's Franchise 500 list.

McGrail and Hermann thought they could build a system that would grow even more quickly. Rather than rent a storefront and hire full-time instructors, they built a network of freelancers



"THERE'S NO NEGATIVITY ALLOWED AT PAINT NITE"

who host classes in uncrowded bars. Unlike karaoke, a DJ, or trivia night, Paint Nite costs the bar nothing. "There's a new terminology out there called 'eatertainment,'" says Bonnie Riggs, restaurant analyst at NPD Group. "This type of thing appeals to millennials—they used to be the heaviest users of restaurants, but they no longer are." On average, they've cut back annually by 50 visits per person in six years. Paint Nite gets them back in the door, and the establishments profit from customers who often spend heavily on cocktails. "Not every bar wants a bunch of women on a Sunday night. But most do," says McGrail, who encourages artists to pitch events on off-nights.

The other paint-and-sip companies—Pinot's Palette has more than 100 locations; Wine and Design has more than 50—require franchisees to spend about \$100,000 to rent a permanent spot and get a liquor license, if they can. This forces most to the suburbs, making their events, McGrail argues, a little closer to a continuing education class than a bachelorette party, much in the way that sip-and-spin pottery classes were popular in previous decades. Paint Nite, by contrast, throws after-work parties for patrons who are largely lawyers, teachers, and tech workers eager for a creative hobby in cities such as Boston, Chicago, and Washington.

Hermann and McGrail admit that giving art lessons in bars was never a passion of theirs. They were teammates at a weekly bar trivia night in Boston, where McGrail, 42, sold pelvic surgery devices, and Hermann, 44, toiled on a laundry service/summer storage startup he'd opened after graduating from college. But they both liked art. And they saw an opportunity that lots of entrepreneurs see right now—outsourcing to the crowd.

Their company basically works on the same principle as Uber or Airbnb. Each customer pays \$45, and Paint Nite gives 70 percent of that to the artist, who books the location, picks the painting from the site's suggestions,



Painting *Swing Into Summer*, a sunset seascape



MASTER WORKS

Paint Nite's most-requested pieces

Etc.

creates a music playlist, teaches the class, and cleans up—essentially does all the work. For its 30 percent, Paint Nite provides the tech infrastructure and marketing. It also lends each teacher \$3,000 for students' art supplies, which the teachers eventually pay back from their \$200 or so in nightly profits.

The company also gives instructors sales techniques so they can approach bars to let them set up easels in a corner on a slow night. It suggests hiring photographers to shoot events so patrons can post shots on social media. Twice a year there's Paint Nite Palooza—the next will be in Las Vegas in September—where about 75 Paint Nite licensees go to panels on topics such as Microsoft Excel.

After starting Paint Nite in March 2012 for \$7,000—paint brushes aren't that expensive—and figuring it would be a side gig, Hermann and McGrail discovered they were in a massive-cash-flow business: This January, they posted revenue of more than \$4 million on sales per month of 155,000 tickets in more than 2,600 bars in 1,200 cities and towns. They just took their first round of funding from Boston's Highland Capital Partners; they don't need the cash but wanted local experts on board to advise. The company's valuation is \$39 million.

A typical Paint Nite teacher is a young, full-time artist or an older art teacher. Many, like Boston's Callie Hastings, who is now on staff at the company, once taught preschool. She says teaching 4-year-olds how to paint isn't all that different from teaching drunk people: "They have short attention spans. So you have to talk in short sentences." She was surprised to find that people didn't choose classes based on date or location, but on the painting itself. They will drive an extra 45 minutes, past two other Paint Nite locations, to execute the pastoral landscape that will go perfectly in their dining room. To avoid copyright issues, all the paintings have been created by Paint Nite artists, and there's a huge selection. One of Paint Nite's first crises came when artists got mad that other people were using their works in classes. Now instructors give \$10 per session to the creator of the work.

Choosing the painting that brings in a crowd is an art in itself: The work can't look so challenging that you'd have trouble reproducing it drunk; it should involve nature and have enough contrast to look good on social media; and, if possible, it should knock off a famous impressionist. Most artists learn this the hard way, despite the advice in Paint Nite's



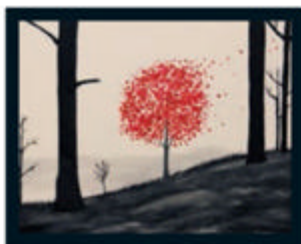
Japanese Cherry Blossom
by Brian Wintersteen
1,622 classes



Sea Turtle
by Kristina Elizabeth
1,019 classes



Spring Blossoms 2
by Meg Brady
867 classes



Red Fall Hill
by Jarett Leger
843 classes



Crazee Daizee
by Maggie Sylvia
743 classes

starter kit. "A lot of them pick paintings based on what they like," McGrail says. "One artist, Raisin—that was his first and last name—had a giraffe coming out of an elephant penis. Not surprisingly, it didn't sell that well." After years of pushing artists to hire a nude male model—Hermann and McGrail wanted to call it Asstastic night—without anyone taking them up on it, they recently got an instructor to do it in Boston in June. Demand was so high they had to rent out a theater.

The painting I'm attempting tonight, *Japanese Cherry Blossoms* by Brian Wintersteen, a middle-school art teacher, is the most popular work in Paint Nite's history. It's netted more than \$150,000 for the company. At 7 p.m., at Boston's Hit Wicket Bar, 36 people are stationed in front of short metal easels on a plastic green tablecloth. Our teacher, Peter Raymond, has given us each a paper plate holding dabs of the five paints we'll need, a red Solo cup with water, and brushes. "There's no negativity allowed at Paint Nite," Raymond yells into his headset. He's a full-time artist and adjunct professor at Lesley University who says Paint Nite is providing his baby's college fund. Artists who work five nights a week make about \$50,000 a year.

Before we pick up a brush, he asks everyone to place one hand on their canvas and the other on their drink and recite the Paint Nite oath: *I promise: To relax and have fun. Not to throw my canvas across the room. Not to use the words "Mine sucks!" "I screwed it up!" "Can you fix this?" "Can't you just do it for me?" "I thought this was paint by numbers!" Now you're ready to drink creatively. Cheers!*

Although they have breaks to buy more drinks, people don't get too loud or rowdy, taking their art very seriously. During the "drink and dry" time between layers, the on-site photographer offers people the opportunity to take shots with a huge sign that says, "Bob Ross is my homeboy," an homage to the Jew-fro'd PBS host who used to teach people to paint. "We couldn't have done this 10 years ago," says McGrail as he freestyles an impressive mountain landscape and sips a gin and tonic. "Our customers are doing the heavy lifting on the marketing side by taking a cell phone picture and posting it to 200 of their friends."

As we leave, he admires one guy's painting. McGrail gives him his card and asks him to teach a class. They both seem equally excited about the idea, though who knows what will happen in the morning. After all, they've both been drinking all night. **B**

Etc.

Accessories

OUT

The executive version of the idea, it's durable enough for daily wear



MARK CROSS

Hadley bag
\$2,495; markcross1845.com



ANYA HINDMARCH

Eyes basket clutch
\$650; us.anyahindmarch.com

Hindmarch, a British designer, is known for zany details—carry this one with confidence

The optional chain strap makes it super useful



SALVATORE FERRAGAMO

Sofia bag
\$1,505; ferragamo.com

Stash in your desk drawer for last-minute dates or drinks

ANN TAYLOR

Rattan bag
\$138; anntaylor.com

KAYU

Makaha palm clutch
\$185; halsbrook.com

Rattan bags lighten up this

Woven by hand

WEEDS

Bucket bags are also back: Two 1970s-inspired trends in one!

MICHAEL KORS

Santorini clutch
\$450; michaelkors.com

SERPUI

Nancy clutch
\$195; fairfolksandagoat.com

THE

KAYU

Audrey clutch
\$185; ahalife.com

REBECCA MINKOFF

Fiona bucket
\$195; rebeccaminkoff.com

JONATHAN ADLER

Goldie clutch
\$103.99; jonathanadler.com

WRECKING BALL

Judd Apatow played a boring press junket for laughs. By Joel Stein

It seems like something producers might have done to promote one of the first talkies: send stars to do vaudeville routines in front of live audiences. That's what Universal did in late June to promote its big summer comedy. For *Trainwreck*—directed by Judd Apatow, written by and starring Amy Schumer, and co-starring Tilda Swinton and LeBron James—five actors and the director went to seven cities, doing a joint standup show to sold-out crowds. The *Trainwreck Comedy Tour* was both the most innovative and obvious way in history to market a movie. It reminded fans that the film was coming (on July 17), and “got more buzz about how funny Amy is,” Apatow says.

While in college, he organized comedy shows, eventually producing HBO's *Comic Relief*. So Apatow figured that while Universal was sending them out for a press tour, he'd get the comics to perform. The studio pays for the trip anyway, so it wasn't a hard sell.

At Los Angeles's Wiltern Theatre, he started the show by introducing Norman Lloyd, a 100-year-old actor in the film, and showing a very short clip of him in a scene. That was the only overt advertising, other than three quick mentions in three hours. “People are seeing the trailers anyway,” Apatow says. “We didn't want people to feel marketed to.” There are no plans to sell footage of the event, though the website Funny or Die has some clips online.

Schumer rose up through the New York scene, so she cast her

friends from the Comedy Cellar in her movie, including Dave Attell, Colin Quinn, and Mike Birbiglia. They all signed up for the tour, along with *Saturday Night Live*'s Vanessa Bayer, who plays Schumer's co-worker. The comedy tour had more headliners than any other this year and a much broader mix than most: gleefully offensive Attell, curmudgeonly Quinn, chirpy Bayer, hapless Apatow, besieged Birbiglia, and indignant Schumer.

The performer with the least experience in front of an audience was Apatow, who stopped doing standup at 24, having never found much success. After directing

the movie *Funny People*, about comics, he tried again and was much better, somehow making the problems of one of the world's richest, most successful filmmakers relatable. It's risky to do a bit about estate planning, but he made it confessional, saying he isn't willing to suffer in the coach cabin just to raise better kids. He now does a regular show at Largo in L.A. and gives the proceeds to charity. The ticket sales for the *Trainwreck Tour* likewise were donated—a different charity at each stop—raising around \$1 million. The comedians performed for free—and often groused about it onstage, even as they insulted the audience for being rich, since the seats cost \$45 or \$100.

Doing standup in a big theater requires a different skill than playing a club. Bayer has a background in improv and, despite great impressions and smart jokes (“It's funny you can name your kid Christian, but you can't name your kid Jew... Let's go, Jew! Get on the train, Jew!”), she sometimes had trouble reaching the back row. The others pulled it off, especially, surprisingly, Birbiglia, a stammering, disheveled favorite of NPR's *This American Life*. He talked about meeting Obama and asking for child-rearing tips, then hearing the president say, “That's some pretty good advice.” He was amused that the leader of the free world needed to boost his own ego.

Attell and Quinn, the most experienced comics, brought attitude and punch lines, and Schumer closed the show sharply. In the movie, based on her life, she plays a lad magazine writer who drinks, can't commit, then meets Bill Hader and really likes him and handles it badly. Here, onstage, she dropped the cutesy asides and girly outfits she once employed to soften her blows. She was self-deprecating—and incensed about being deprecated by others. And more than

funny enough for a marketing event. **B**



There's too much focus on the external. “But what about internal innovation?... **Pivoting means having the courage to pursue a new path**, even in the face of self-doubt [or] pressure from society.” p169

Pirates, hackers, and gangsters should be role models. “Informality is a key driver of misfit innovation... [Support] people to rise above a job title and unleash real talents.” p35

Copy someone else's work, but only if you can do it better. “It's important to remember that the person who comes up with an idea is not always the best person to execute it or see that scale up... **Be sure to emphasize execution over ownership.**” p105

Try to pause from all the careerism.

“‘Hermit time’ is sought by many young entrepreneurs who are finding inspiration by getting off the grid entirely, at least for short periods.” p184

MASTER CLASS

LET'S BLOW THIS JOINT



The Misfit Economy
By Alexa Clay and Kyra Maya Phillips
(Simon & Schuster), \$26

Desert Date Goat Milk Frozen Yogurt

Victory Garden, New York

The shop uses goat's milk to create frozen yogurt flavors with a tangier bite. Dates make it overtly sweet—maybe to mask the goat-y funk—and impart a slightly grainy texture. It's intense, though a touch of sweet orange balances it out.

\$10/pint; victorygardennyc.com



Potato Champion's Poutine

Salt & Straw, Portland, Ore.

A collaboration with the Potato Champion Food Truck, this one is like dipping french fries into a milk shake. Ribbons of caramel and savory marshmallow make it extra salty, so it's hard to put down after one bite.

\$13/pint; saltandstraw.com



Snap, Mallow, Pop

Ample Hills Creamery, Brooklyn, N.Y.

It tastes as if you dunked Rice Krispies cereal in milk. Unlike other ice creams, which rely on swirled add-ins, the parlor blends it to get consistent flavor and texture in every bite. Caramelized puffed rice offers an addictive crunch.

\$10/pint; amplehills.com



ICE CREAM FOR LUNCH

Testing the latest savory, slightly odd flavors. By Maridel Reyes

Order Anywhere!

Thanks to the magic of dry ice, you can buy any of these online and have them delivered to your door



Davy Brown Ale & Butter Brittle

McConnell's Fine Ice Creams, Santa Barbara, Calif.

There's an aroma of hearty beer the moment you open the carton, but it's offset by a surprisingly light texture. Hunks of buttery almond brittle provide a sugary contrast.

\$10/pint; mcconnells.com



Basil

Il Laboratorio del Gelato, New York

Handmade in small batches on Manhattan's Lower East Side, it's reminiscent of a cold *caprese* salad. It's just a little bit slimy—if that bothers you—and the overwhelming use of sweet basil leaves a strong aftertaste, so don't eat before a big meeting.

\$15/20 oz.; laboratoriodelgelato.com



Strawberry Tequila Sorbetto

Capogiro Gelato, Philadelphia

The gelato and sorbet maker has created more than 380 flavors since it opened in 2002. Its latest is bright and refreshing—like spooning up fresh berries—with an herbaceous undertone and a pleasing, seedy crunch.

\$10/pint; capogirogelato.com

MESSAGE IN A BOTTLE

The competition to make drinking water more chic. By Kayleen Schaefer



70

There is nothing Bkr's water bottle does that others can't. Yet the reusable glass canteen, sheathed in one of 60 colorful silicone sleeves, has emerged as a hot summer accessory. They're popular among the same women who buy into sporty style trends—athleisure, as they call it—wearing \$300 Lucas Hugh leggings, even when they're not on the way to a \$40 ModelFit class. The Bkr (pronounced “beaker”) works with a pair of Nikes, just as an over-size four-figure handbag once did with Manolo Blahnik heels.

At Neiman Marcus, the bottles (\$42 for the liter size; \$30 for 500ml) are sold on the beauty floor alongside floral Tom Ford perfumes and thickening mascaras from South Korean cosmetics companies. “Any place where it doesn't feel like buying a Bkr is a treat isn't right for us,” says Tal Winter, who co-founded the brand in 2011 with Kate Cutler. “Our girl isn't getting herself a fabulous thing in the home department. She's buying 15 lip glosses. She keeps sweaters in her stove.” Sales have increased at least 114 percent every year, due mostly to online retail.

“Water bottles have become kind of a status item,” says Peter Leighton, chief executive officer of consulting firm Abunda Solutions. “Thought leaders are paying more to make a statement with them.”

Reusable plastic bottles, first sold in the

late 1940s, remained expensive until the 1960s, when cheaper high-density polyethylene was developed. Nalgene bottles were originally made of this material and used by hikers and Boy Scouts before becoming widespread in the early 2000s on college campuses.

Worries about the plastic-binding chemical bisphenol A (BPA) inspired metal versions—from brands such as Hydro Flask and Klean Kanteen—and glass ones from companies like Lifefactory. All of them cater to those who feel guilty about toting a disposable bottle. “Our customer was drinking Evian,” Winter says. “We wanted to be just as sexy as plastic water bottles.”

The founders, who met as students at San Francisco's Hastings College of Law, used to drink those throwaway options. Winter kept a flat of Fiji water in her trunk. Then they heard about studies linking BPA to a litany of health concerns, such as obesity, diabetes, and problems with fertility. (The U.S. Food and Drug Administration says BPA is safe for humans at the levels to which people are exposed.) “We knew we were addicted to the little plastic bottles,” Cutler says, adding that other options weren't chic enough: “We weren't going to hike up the side of a mountain or go camping.”

While working grueling, boring law firm jobs, they raised \$200,000 in venture capital to start the company. “I'd be at work in a purple animal-print DVF dress thinking, ‘There's got to be something more fabulous,’” Cutler says. They hired a team of Stanford engineers, who introduced them to manufacturing partners in Shenzhen, China, where thousands of the bottles are now produced each month.

The founders treat Bkr as if it's a fashion brand, releasing new collections in names and colors such as Lolita, an opaque blackberry, or Detox, a dusty mint. It has a small mouth to mimic the feel of an Evian bottle, and a no-leak seal. “We worked so hard to make it so it won't leak into your Prada,” Winter says. Bkrs show up often in tabloid photos of Gisele

Bündchen, Charlize Theron, Blake Lively, and other celebrities—not just because they have a good publicity firm, the founders say, but also because they filled a market need.

Water bottle trends are already changing, though. The HidrateMe, announced in June and set to be released in December, connects to your smartphone, monitors your water intake, and alerts you when you're not drinking enough. As might be expected, it's kind of ugly. **B**

“WE WORKED SO HARD TO MAKE IT SO IT WON'T LEAK INTO YOUR PRADA”

You work in Dubai?

I have a dental practice there. I treated the royal family a while ago, and they invited me back. I go twice a month. I have a team, but I'm the guy who sees special patients.

How'd the royal family hear about you?
I was on a TV show in London, and they saw it and came in.

MICHAEL APA

*37, cosmetic dentist,
Rosenthal Apa Group,
New York and Dubai*

BRUNELLO CUCINELLI

What's your specialty?

Purely aesthetic dentistry, which is when we restructure someone's mouth with porcelain veneers or implants.

Are your shirts and suits custom?

No. I can wear Brunello Cucinelli pretty much off the rack, and it looks custom. I own around 30 suits.

Where do you store them?

I allow my son to use our fourth bedroom as a video game room as long as I can have the closet space.

BRUNELLO CUCINELLI

A. LANGE & SOHNE

Do you wear a white coat at work?

It's an official uniform as a doctor, but I wear it so I don't get stuff on my suits.

Are you a watch guy?

I love watches. I pick one each day depending on what I'm wearing.

Why wear suits?

People come to me for my aesthetic, so it's part of the trust process.

RALPH LAUREN

So what's your aesthetic?
Casually understated but very sharp.

MICHELE NEGRI

Why these shoes?

They are fitted, but not bulky, and finish off the tapered legs of my suit nicely. I don't mix it up—I probably have 20 pairs by this designer.



JOYCE ROCHÉ

Board member, AT&T, Dr Pepper Snapple Group, Macy's, Tupperware Brands



"I thought that my options were teaching, social work, or nursing, so I chose teaching math."

At Columbia in 1972

"I was recruited for Polished Ambers, their line targeted for African American women, but the director for the Revlon brand didn't show up, so they asked me."



With her study group at the Stanford Executive Leadership Program in 1991

"Our African business was growing like gangbusters, and in the midst of doing a roadshow in South Africa to take the company public, we started working on an IPO on the New York Stock Exchange."



"I always had this little voice of self-doubt causing me to overprepare for everything. I learned that's called imposter syndrome and wrote about overcoming it."

Education

McDonogh 35 Senior High School, New Orleans, class of 1965

Dillard University, New Orleans, class of 1970

Columbia Business School, class of 1972

Work Experience

1973-79
Associate merchandising planner; senior planner, Avon Products

1979-81
Director of marketing, Revlon

1981-94
Group director of marketing, fragrance and gifts; vice president, merchandising and product marketing; senior VP, U.S. marketing; VP, global marketing, Avon Products

1995-98
Executive VP, global products; president, Carson Products

1999-2000
Management consultant

2000-10
President and chief executive officer, Girls Incorporated

2011-14
Author, *The Empress Has No Clothes*

2011-Present
Board member, AT&T, Dr Pepper Snapple Group, Macy's, Tupperware Brands

Life Lessons



With Chicago Mayor Harold Washington, Dorothy Height, and Avon colleague Jean Ford, in 1985

"Nobody who looked like me had ever been an officer at Avon."



At Carson Products in 1996

"A search firm approached me about joining an ethnic hair-care company that an investors' group was buying. My contract called for me to be president in a year."

"I wanted to do some real work with the nonprofit boards I sat on, because I never felt I had time to do anything."

With Hillary Clinton at Dillard University commencement in 2007



Roché just moved up to lead director at AT&T

Brilliant IDEAS



SIMON DENNY



CORNELIA PARKER



MICHAEL JOO



MARIKO MORI



Cyclic II, 2014

Brilliant Ideas looks at the most exciting and acclaimed artists at work in the world today. Featuring top names, up-and-coming artists and the stars of tomorrow – painters, sculptors, digital, conceptual and performance artists, photographers, land and street artists. Bloomberg TV has covered the globe to talk with these artists in their studios and exhibition points. Through intimate conversations, we reveal their Brilliant Ideas.

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